

Enforcement Matters

Enforcement and Compliance of European Directives in Four Member States

Enforcement matters
Enforcement and compliance of European directives in four Member States

Handhaving telt
Handhaving en naleving van Europese richtlijnen in vier lidstaten

(met een samenvatting in het Nederlands)

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Preface

You see before you the result of four years of PhD-research on the implementation and enforcement of two European directives that regulate the safety of working with dangerous substances. A topic that I would never have expected to end up with, but that grew on me in the course of the last years and that by now has become something I feel both comfortable with and committed to.

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Abbreviations

AND	Andalucia
AVRIM 2	Arbeidsveiligheidsrapport Inspectie Methodiek (Labour Safety Report Inspection Method)
BAV	Bavaria
BG	Berufsgenossenschaften
BRZO 1999	Besluit Risico's Zware Ongevallen 1999 (Major Accident Hazards Decree 1999)
BW	Baden-Württemberg
CAT	Catalonia
CCA	Committee of Competent Authorities
CHIP	The Chemicals (Hazard Information and Packaging for Supply) Regulations 1994
COMAH	Control of Major Accident Hazards Regulations 1999
D	Germany
DG	Directorate General
DIN	Deutsches Institut für Normung (German Normalisation Institute)
DÜV	Dampfkesselüberwachungsverein (Steam Boiler Monitoring Association)
E	Spain
EA	Environment Agency
ECA	Entidad Colaboradora de la Administración (Collaborating Organisation of the Administration)
EU	European Union
FOD	Field Operations Directorate
GB	Great Britain
HID	Hazardous Installations Directorate
HSE	Health and Safety Executive
ICICT	Institut Català d'Inspecció i Control (Catalan Institute of Inspection and Control)
ICT	Information and Communication Technology
INERIS	Institut National de l'Environnement Industriel et des Risques (National Institute for the Industrial Environment and Risks)
ISO	International Standardisation Organisation
IQS	Institut Químic de Sarrià (Chemical Institute of Sarrià)
MAD	Madrid
MAPP	Major Accident Prevention Policy
MJV	Mutual Joint Visit
NIVRIM	Niet Veiligheidsrapportplichtige Bedrijven Inspectie Methodiek (Lower Tier Establishments Inspection Method)
NL	The Netherlands
NRW	North-Rhine Westphalia
OCA	Organismo de Control Autorizado (Accredited Control Organ)
QRA	Quantitative Risk Analysis

RIB	Rapport Informatie-eisen BRZO 1999 (Report Information-Demands Major Accident Hazards Decree 1999)
SDS	Safety Data Sheets
SEPA	Scottish Environment Protection Agency
SERIDA	Safety Environmental Risk Database
SGS	Société Générale de Surveillance (General Surveillance Society)
SRAM	Safety Report Assessment Manual
TEC	Treaty establishing the European Community
TNO	Toegepast Natuurwetenschappelijk Onderzoek (Applied Natural Scientific Research)
TSI	Trading Standards Institute
TÜV	Technische Überwachungs Verein (Technical Monitoring Association)
UK	United Kingdom
VAL	Valencia

Part 1
Introduction

Chapter 1

Introduction

1.1 Introduction

“Uneven implementation of EC rules could distort competition across the market quite as much as having no rules at all. The setting of penalties for breaking EC Directives is left to the Member States. If some states enforce EC law punctually, while others fail to get EC decisions into their statute books or pay scant attention to them, there could be a backlash from virtuous states, leading to a bureaucratic tit-for-tat, and a “single market” sliding back into an anarchy of covert protectionism rather as the Common Market did in the 1970s”.

Colchester & Buchan, 1990: 132.

One of the main objectives of the process of European integration is unification, uniform rule application and a setting up of equivalent conditions for all Member States and therefore of equal competition positions for all regulated actors. The EU tries to regulate important policy areas on Communautaire level in order to create common starting-points for all member countries. The use of regulations that apply to all is necessary in order to ensure a situation in which actors in different countries can operate under the same conditions. Most EU regulations are set up to provide equal circumstances in the various countries. Member States have to adapt, if present, their already existing legislation to the new European standard. For Member States with no former national legislation, the EU legislation can form a starting point for regulating a subject. Some directives, the ones based on Articles 94 and 95 (Treaty establishing the European Community: TEC), even explicitly provide a legal basis for harmonisation. Regulations based upon these Articles create common standards in order to eliminate barriers to trade that spring from Member States' different requirements and thus try to create equal circumstances for regulated in all countries.¹

The question whether uniform rule application and equivalent conditions for regulated in the Member States can exist depends very much on the way in which countries implement European legislation. Member States have to implement EU legislation into their own national legal system. The concept of implementation often is rather confusing. Different scholars refer to different definitions when talking about implementation. When using the word ‘implementation’, political scientists usually refer to the entire process of dealing with European legislation from the moment a directive has been accepted by the Council of Ministers. It includes all phases from transposition into national legislation to the sanctioning of non-compliance by the regulated. The judicial meaning, however, mostly refers to the moment of legal transposition alone. Many authors agree on the distinction between ‘formal’ and ‘practical’ implementation or ‘legal’ and ‘administrative’ implementation (e.g. Andersen and Eliassen, 1993; Pridham and Cini, 1994; Haigh, 1986; Mortelmans, 1994). With formal or legal implementation the actual transposition of European directives into national legislation is meant, whereas practical or administrative implementation means the establishment of administrative agencies, the setting up of necessary tools and instruments, the monitoring and the actual enforcement of legislation. Practical or administrative implementation concerns the actual effects and results of legislation.

These different meanings show that it is rather confusing to use the concept of implementation in general. It is, therefore, more practical to distinguish between the various elements that comprise this concept. The entire process of dealing with EU directives on national level starts with the ‘transposition’. Transposition will, in this study, be used in its strict judicial meaning as the phase in which EU legislation is converted into national law. The definition by Haas expresses the way in which transposition is used: ‘*conversion on paper of international commitments to domestic law*’ (Haas, 1998: 18). During and after the transposition, Member States have to set up all necessary administrative structures to ensure that the next phase ‘enforcement’ will actually take place. Enforcement will be used according to the definition given by Matthews: ‘(...) *the degree to which the relevant authorities seek to ensure compliance and bring those responsible for non-compliance into line*’ (Matthews, 1993: 2). The ‘compliance’ referred to in this respect applies to the regulated that have to comply with the European legislation. Again, the definition by Matthews is used: compliance is ‘(...) *behaviour which conforms to a predetermined set of regulatory measures*’ (Matthews, 1993: 2). When the word implementation is used in this study it refers to the entire process in which Member States deal with EU legislation on national level after the adoption of this legislation; it thus includes all elements of transposition, enforcement and compliance.

In order to make sure that countries implement European requirements in a correct manner, the European Commission, according to Article 211 (TEC), has the task to ‘*ensure that the provisions of this Treaty and the measures taken by the institutions pursuant thereto are applied.*’ The Commission is appointed as the ‘guardian of the Treaties’ in the sense that it should check the correct application of the obligations. It is the Commission’s task to monitor the Member States in the extent to which they apply Community law. The procedure laid down in Article 226 (TEC), the infringement procedure, explicitly gives the Commission the task to provide for the situation in which the Member States transpose EU legislation correctly and completely into their own national legal system. This article describes a three-stage procedure in the case of non-compliance: (i) formal notice to the Member State concerned; (ii) reasoned opinion and (iii) referral to the European Court of Justice. The results of actions by the Commission with respect to this role as ‘guardian of the Treaties’ are doubted by some: ‘*Senior Commission staff are, for the most part, better at drafting Directives than they are at implementing them, stronger at planning programmes than they are at administering them*’ (Andersen and Eliassen, 1993: 64). According to Steiner (Steiner, 1995: 12) the Commission’s provisions under this infringement procedure to secure effective implementation are insufficient. Steiner gives three main reasons for this insufficiency. In the first place, the Commission often is not aware of the practical infringements by Member States. It is impossible to monitor all national actors. Since the Commission does not have representatives within the Member States for this specific task, it is dependent on national groups and organisations for reliable information. Environmental groups, for example, are necessary to provide the Commission with information on the actual enforcement of environmental directives: ‘*As there is no independent means of monitoring or inspection what happens “on the ground”, the Commission is almost wholly dependent upon the complaints made by environmental associations against Member States.*’ (Pridham and Cini, 1994: 259). In the second place, it is up to the Commission itself to decide whether or not to pursue a case of non-compliance. The Commission has complete discretion in this respect and may decide not to proceed against serious infringements. In the final place, the last phase in the infringement procedure, the referral to the European Court of Justice, does not guarantee effective implementation by the Member State in question. The sanctions available to the Court are insufficient to demand correct compliance.

Attention by the Commission for the application of Community law at national level is increasing the last decade. Especially the White Paper on 'European Governance' started a debate on the implementation of European legislation within the Member States.² According to this white paper, more attention should be paid to the effective enforcement of Community law. As the white paper argues: '*Ultimately the impact of European Union rules depends on the willingness and capacity of Member State authorities to ensure that they are transposed and enforced effectively, fully and on time. Late transposition, bad transposition and weak enforcement all contribute to the public impression of a Union which is not delivering.*' (COM(2001) 428: 25) In this white paper the Commission therefore established some 'action points' for the future to improve the application of European legislation. Amongst others, the Commission will try to arrange meetings between national administrations to 'share best practice in implementing measures' and asks of Member States to make efforts to improve the quality of transposition and enforcement (COM(2001) 428: 26). Despite these recent efforts, the application of Community law is still a business of the Member States. There are some European agencies that might be of help – for example the 'European Environment Agency' or the 'European Agency for Safety and Health' – but these are mostly concerned with information gathering and supplying of technical and scientific support. They do not have the task of setting up implementation- or enforcement-standards and they definitely are not concerned with visiting the regulated themselves.³ The Commission intends to create more European regulatory agencies, mainly with the aim to contribute to a more uniform rule application.⁴ However, for the time being the enforcement of most legislation is completely in the hands of the individual Member States.

1.2 Relevant literature and theories

1.2.1 Integration theories

The objective of this study is to provide a better insight into the practical enforcement of Community law within the Member States and its possible influence on the compliance practice by the regulated. Theories of European integration are as old as European integration itself is. Whereas the first theories focused on the Member States as the actors with most influence, later theories focused more on a network of influences. The most important theories of European integration are 'neo-functionalism', '(liberal) intergovernmentalism', '(new) institutionalism' and the 'policy network analysis'. All these theories have one thing in common: they try to explain how decisions are being made on European level, and most importantly, they try to explain who makes these decisions.

Neo-functionalism (e.g. Haas, Lindberg), first of all, from the 1950s onwards focused on the *process* of European integration; a gradual political change driven by functional processes. Neo-functionalism assumed that integration is fed by societal processes in which social actors demand integration and by technocratic processes in which the power of the experts provides leadership (Peterson and Bomberg, 1999: 14). Neo-functionalists looked upon the integration process as a 'spill-over effect'. According to the founding father of this theory, Haas, spill-over '*referred to the way in which the creation and deepening of integration in one economic sector would create pressures for further economic integration within and beyond that sector, and greater authoritative capacity at the European level*' (Rosamond, 2000: 60). The driving forces behind the spill-over process are non-state actors (e.g. domestic social interests and European institutions) rather than Member States.

The failure of neo-functionalism to explain the stagnation in the European integration process in the 1960s led to the development of an alternative theory: (*liberal*) *intergovernmentalism*. Intergovernmentalists (e.g. Hoffmann, Milward, Moravcsik) place the national governments, the Member States, at the centre of the decision-making process. Member State governments dictate the obstruction or continuation of European integration. National interests control EU decision-making; the aim of national governments is to protect their own interests. European integration '*is possible only at the cost of conflict and compromise among the governments of the EU Member States*' (Bulmer and Lequesne, 2002: 7).

A problem with intergovernmentalism is that it prevents understanding the role of supranational institutions and non-governmental actors. Since the mid-1980s the notion of 'governance' becomes important; the EU is more and more described as '*a system of complex, multitiered, geographically overlapping structures of governmental and non-governmental élites*' (Wessels, 1997: 291). Especially two important theoretical strands emerge from the 'governance turn' in EU theories: (*new*) *institutionalism* and the *policy network analysis* (Rosamond, 2000: 113).

New institutionalism started to dominate the debate on European integration from the mid-1980s onwards. According to institutionalists (e.g. Powell & DiMaggio, March & Olsen) 'institutions matter'. Decisions arise from bargaining between different institutions on both European and national level. In this bargaining process preferences are shaped and transformed; preferences and thus decisions are determined by the interactions within the decision-making system. Institutionalism not only looks at the importance of rules and traditions within the decision-making processes; they also pay attention to the role of routinisation and socialisation (Kerremans, 1996: 217). According to Bulmer and Lequesne, the rise of institutionalism had two implications for studying European integration (Bulmer and Lequesne, 2002: 11):

- '*Politics at the EU level is no longer seen as a series of strategic decisions made by national governments but as a "path dependent" process with a series of critical situations and unforeseen consequences.*'
- '*Institutions at supranational and national levels should no longer be regarded only as instruments in the service of outside pressures but as structures capable of integrating experiences and norms over the course of time.*'

Institutionalist approaches are often divided into two camps: 'rational choice' institutionalists and 'historical' institutionalists (e.g. Hall & Taylor). The two different approaches have different definitions of what institutions are. Rational choice institutionalists define institutions as 'formal legal entities' and 'sets of decision rules' (Rosamond, 2000: 114-116). Historical institutionalists hold a wider definition and they define institutions as '*formal rules, compliance procedures and standard operating practices that structure relationships between individual units of the polity and the economy*' (Hall, 1986: 19).

The emergence of the policy network analysis from the 'governance turn' in EU studies can be seen in its notion that power has become dispersed within the EU polity (Rosamond, 2000: 123). According to the policy network analysis, a policy network is '*a metaphor for a cluster of actors, each of which has an interest or stake in a given EU policy sector and the capacity to help determine policy success or failure.*' (Peterson and Bomberg, 1999: 8) The actors interact with each other – and are dependent on each other – for information and resources. The network is the place where information and resources are exchanged. Policy network analysts try to explore how decisions are being negotiated within these networks; they examine '*the interaction of political administration and organised interests*' (Porter and Butt Philip, 1993: 17).

1.2.2 Integrating integration theories

Most of these above described theories were set up with the idea to explain all decision-making processes on European level. However, as Sandholtz put it: *‘Different kinds of theories are appropriate for different parts of the EU puzzle.’* (Sandholtz, 1996: 427) According to Peterson and Bomberg theories of European integration should be looked upon differently for different types of decision-making; different types of theories can explain different types of decision-making. They divide the decisions that are being made on European level into three types: ‘history-making’, ‘policy-setting’ and ‘policy-shaping’ decisions (Peterson and Bomberg, 1999: 4-30).

History-making decisions are decision taken at a ‘super-systemic level’, thus taken by the Member States; the ministers and heads of states in the ‘Council of Ministers’ or during ‘Intergovernmental Conferences’. As the term implies, these are the important decisions that make history. Examples are the European Monetary Union or the white paper on the internal market. These kinds of decisions can best be explained by theories that place the inter-governmental bargaining mode at the centre such as liberal intergovernmentalism and neo-functionalism.

Policy-setting decisions, however, can best be explained by the theory of new institutionalism. These kinds of decisions ‘set’ policy and are taken at the ‘systemic level’ by the Council, COREPER or the European Parliament. Peterson and Bomberg mention as an example a directive to create an internal market for motorbikes.

Policy-shaping decisions, finally, do not make or decide but merely ‘shape’ policy. These kinds of decisions are taken at the ‘sub-systemic level’ by the Commission or working groups of the Council or the Parliament. These are the decisions that determine policy details, for example the proposal that all motorbikes licensed in the EU must observe specified power limits. The theory most suitable to explain the decision-making process with respect to such detailed decisions is the policy network analysis.

1.2.3 Europeanisation

Most theories such as the ones described above – whether or not aimed at explaining all decision-making processes or only ‘a part of the EU puzzle’ – have one thing in common; most of them mainly focus on providing an explanation for *decision-making processes*. How are decisions being made at European level? What actors are most important in explaining the decision-making process? Such theories have in common that European integration or policy-making is the dependent variable. These theories are less useful, however, when looking at the impact of the European Union upon the Member States. Therefore, the last couple of years a new strand of literature is emerging – referred to as ‘Europeanisation’ literature – with European integration or policy-making as the independent variable. This strand of literature is more concerned with explaining the influence of the European level upon the Member States; it is therefore more focused on a ‘top-down’ approach. Various scholars have tried to conceptualise this new strand of literature (e.g. Börzel and Risse, 2002; Bulmer and Lequesne, 2002; Cowles, Caporaso and Risse, 2001; Héritier and Knill, 2000; Radaelli, 2000). Up until now there are as many definitions of ‘Europeanisation’ as there are scholars writing on this topic. Bulmer and Lequesne summarise a few of the most important definitions (Bulmer and Lequesne, 2002: 35):

- Ladrech: *“Europeanisation is an incremental process reorienting the direction and shape of politics to the degree that EC political and economic dynamics become part of the organizational logic of national politics and policy-making”.*
- Risse, Cowles and Caporaso: *“the emergence and development at the European level of*

distinct structures of governance, that is, of political, legal and social institutions associated with political problem solving that formalizes interactions among the actors, and of policy networks specializing in the creation of authoritative European rules”.

- Radaelli: “Processes of (a) construction (b) diffusion and (c) institutionalisation of formal and informal rules, procedures, policy paradigms, styles, ‘ways of doing things’ and shared beliefs and norms which are first defined and consolidated in the making of EU decisions and then incorporated in the logic of domestic discourse, identities, political structures and public policies”.

When analysing the literature on ‘Europeanisation’ there is not yet a real theoretical framework available. Radaelli does mention what Europeanisation is not. Europeanisation should not be confused with other concepts such as ‘convergence’, ‘harmonisation’ and ‘political integration’. As Radaelli claims, convergence (or divergence) can be a consequence or a product of Europeanisation, but *‘convergence is not Europeanisation because there is a difference between a process and its consequences’* (Radaelli, 2000: 6). Bulmer and Lequesne do, however, distinguish two features that always seem to be prominent within the various definitions of Europeanisation: (1) the concern with adjustment processes and (2) an institutionalist analysis (Bulmer and Lequesne, 2002: 16).

One example of the literature available on ‘Europeanisation’ is the article of Börzel and Risse in which they try to conceptualise the domestic impact of Europe. In their article, they indicate three possible degrees of domestic change (Börzel and Risse, 2002: 14):

- 1) Absorption: incorporation of EU policies and a low degree of domestic change.
- 2) Accommodation: patching up new policies and institutions and a modest degree of change.
- 3) Transformation: replacing of existing policies and institutions thus a high degree of domestic change.

Börzel and Risse indicate two conditions for expecting domestic change in response to Europeanisation: (1) a misfit between EU and domestic processes, policies and institutions and (2) facilitating factors to respond to the adaptational pressures (Börzel and Risse, 2002: 1). The degree of fit or misfit between EU and domestic structures influences the adaptational pressure: *‘The lower the compatibility between the European and domestic processes, policies and institutions, the higher the adaptational pressure.’* (Börzel and Risse, 2002: 5) Europeanisation thus is only likely to occur in cases of clear misfit. There can be two types of misfit: policy and institutional misfit. The adaptational pressures occurring from the misfit will only actually lead to domestic change in case of enough and appropriate facilitating factors to induce change; there need to be catalysts for domestic change.⁵ Rationalist and sociological institutionalists identify different facilitating factors to respond to adaptational pressures. According to rationalist institutionalism there are two facilitating factors that influence domestic change: (1) an absence of multiple veto points and (2) formal institutions that provide national actors with enough resources to promote domestic change. (Börzel and Risse, 2002: 8-9) Sociological institutionalists identify two different mediating factors: (1) the presence of change agents and (2) a political culture conducive to consensus building (Börzel and Risse, 2002: 11-12).

The ‘Europeanisation’ literature generally focuses on *domestic change* or *domestic adjustment* in response to Europeanisation; it often is concerned with the question of convergence or divergence. It focuses on the impact of European integration or European policy-making upon domestic policies, politics and polities. This explorative study on the enforcement and

compliance of EU directives on the one hand fits within this Europeanisation literature since it is also concerned with the impact of Europe, or European policy, upon the domestic level. On the other hand, however, the Europeanisation literature does not provide ample tools to study enforcement and compliance structures in practice. This study therefore supplements the 'European literature' with the more legal-sociological 'enforcement literature' in order to be able to study these enforcement and compliance practices.

1.2.4 *Enforcement literature*

Up until now, these two traditions in literature have largely been treated separately. There are many studies describing the different policy areas the European Union regulates; from environmental policy to regulation of the internal market. Many studies describe European legislation in these policy areas in general, without referring to its transposition and enforcement within the Member States (example of EU environmental policy: e.g. Sands, 1991; Sbragia, 1996; Vogel, 1993).

Literature on European legislation in relation to national legislation and national ways of dealing with this EU legislation is available, but not so much in the form introduced in this study. When this relationship is touched upon, it usually concentrates on either the national preparation for the EU decision making process (e.g. Pappas, 1995) or focuses on the transposition of European regulations into the national legal systems (e.g. De Gier, 1991; Glim, 1990; Haigh, 1986; Knill and Lenschow, 1997; Knill, 1998). Of course this phase of transposition is of particular importance when studying EU legislation, but the process of implementation does not stop after this transposition. After this, the crucial moment of putting the law into practice starts; the phase in which the '*law in the books*' becomes the '*law in action*'.

Studies on enforcement in general are numerous (e.g. Bardach & Kagan, 1982; Braithwaite, 1985; Harding and Swart, 1996; Havinga, 1992; Kagan, 1989, 1994; Knegt, 1986; Mortelmans, 1994; Terpstra and Havinga, 1999), but they have, up until now, not often been focused on a comparison of enforcement of European regulation in various Member States. There are examples of studies describing the enforcement practice in one single country (e.g. Hawkins, 1984; Hutter, 1989; Koolhaas, 1990; Vos et al., 1993), one single enforcement agency (e.g. Hutter and Manning, 1990; Siemons, 1988; Wilthagen, 1989, 1992) or one single policy area in general, not specified to individual countries (e.g. Krämer, 1991; Macrory, 1992). When there are international comparative studies on enforcement in different countries, these studies do not focus on enforcement of EU regulations in specific (e.g. Siemons, 1992). Wilson, for example, compares the enforcement of occupational safety and health policy in general in different countries but he focuses on the United Kingdom and the United States and not on EU legislation (Wilson, 1985). The same applies to Vogel who compares the enforcement of environmental policy within the United Kingdom and the United States. (Vogel, 1986) Studies that do focus on the enforcement of EU legislation often only pay attention to the regulators alone and not to the regulated as well (e.g. Lugt, 1999; Matthews, 1993; Siedentopf and Ziller, 1988a/b).

There are, however, only few clear studies describing how different Member States enforce the same European legislation. There are no detailed case studies available describing how different Member States enforce specific European legislation and a focus on compliance by the regulated as well is even scarcer. This explorative study combines the Europeanisation literature with the literature on enforcement and will try to provide more detailed knowledge on how different Member States enforce EU regulations and how regulated in the various countries comply with this legislation.

1.3 Enforcement of EU legislation

Member States still have complete control when it comes to enforcing EU legislation. Countries have their own tradition, or absence of this tradition, in how to execute the enforcement of legislation, whether national or European. Each country – or even each region, enforcement agency or inspector – has its own system of checking the compliance with rules by the regulated. Since every country uses its own enforcement agencies, its own style of enforcement, there are bound to be differences between Member States. Strict regulation can lose its meaning when enforcement agencies keep an eye closed when monitoring companies or when they make no use of sanctions. Obedience differs between countries – ‘*In some countries, rules are there to be followed, in others it seems if they merely exist to be violated.*’ (Van Waarden, 1998: 2) – and insufficient monitoring of the enforcement process by the Commission probably leads to diverging enforcement practices within the Member States. According to various authors, differences in enforcement styles exist. Kagan states that ‘*In any case, it is clear that regulatory enforcement and decision-making styles do vary substantially (...)*’ (Kagan, 1989: 91). Brickman comes to this same conclusion: ‘*The organisation of the inspection programs, the powers of the inspectors, and the stringency of sanctions, however, differ considerably across countries and across regulatory sectors*’ (Brickman, et al., 1985: 49).

The literature available on enforcement mentions two types, two extremes, of enforcement styles (Harding and Swart, 1996; Havinga, 1992; Hawkins, 1984; Hutter, 1989; Kagan, 1989; Koolhaas, 1990; Matthews, 1993). On the one hand, an enforcement style can be characterised as *legalistic* – this style is also indicated with words such as ‘compulsion’, ‘sanctioning’, ‘coercion’ and ‘penal’ – but on the other hand a *conciliatory* style – or ‘compromise’, ‘co-operative’ and ‘advisory’ – can be identified.

The legalistic style forbids certain behaviour; inspectors punish the regulated when they do not comply with the legislation. The main question is whether the law has been broken or whether an infringement is visible. In this case, inspectors often use their legal powers and they apply the law strictly. Characteristics of this legalistic style are, especially, the tendency to resort to formal legal methods and pay attention to the level of detail and complexity of the legislation. The tracking down of infringements and sanctioning of those infringements are seen as the most important aspects of the job of the inspector. Applying sanctions is routine behaviour for inspectors with a legalistic style. Kagan refers to it as ‘adversarial legalism’: ‘*The mechanical application of rules without regard for the fairness or substantive desirability of the results produced by applying the rules*’ (Kagan, 1978: 92).

The conciliatory approach places the emphasis on the transference of information. Here the most important aspect is to change the behaviour of the transgressor to ensure that the rules are complied with. The finding of a solution to the problems is considered important and there is an emphasis on negotiation, consultation and persuasion. Sanctions are seen as the last resort when everything else fails to work; this style ‘*seeks to prevent a harm rather than punish an evil*’ (Hawkins, 1984: 4). In order for this style to be effective, a mutual trust between regulator and regulated is necessary (Aalders and Wilthagen, 1997: 425).

According to both Matthews and Hutter (Matthews, 1993: 2-3; Hutter, 1989: 155-156) this conciliatory style can be observed in two forms; the ‘persuasive’ and the ‘insistent’ approach. When applying the persuasive approach, the inspector explains the law and discusses possible solutions together with the company. The relationship is informal and inspectors mainly try to educate, convince and persuade the regulated to comply with the law.

When using an insistent approach the inspector is less sympathetic and flexible. The inspector expects a quick response from the companies and decides on the improvements that have to be made and discusses the timetable with the company. The insistent approach is more likely to result in a legalistic one. The main difference with the legalistic style is the different aim. The aim is to make sure that compliance will occur and not sanctioning as such. The most lenient enforcement style that can be observed can be called the ‘passive’ enforcement style. Kagan describes this extreme lenient variant as ‘retreatism’ (Kagan, 1989: 93). Inspectors with a retreatist style back down at the least sign of opposition from the side of the regulated. They find it hard to take decisions and often delay their actions. Another form in which this passive (or lax) style can be observed is when inspectors not so much do not *dare* to enforce the legislation, but when they do not *care* to do so. In this last variant, enforcement hardly takes place due to a lack of interest from the side of the inspectors.

When ordering these different enforcement styles described in literature, the following order in strictness can be observed:

‘passive’ → ‘persuasive’ → ‘insistent’ → ‘legalistic’

The extremes lead to different working methods. Whereas the more lenient styles are likely to focus on the prevention of infringements (except for the passive style where enforcement hardly takes place), the more legalistic style focuses on repression. Legalistic inspectors are likely to impose sanctions the moment they notice an infringement, whereas the more accommodative inspector will give second and sometimes even third chances to the regulated. Different styles also result in a focus on different aspects; while inspectors working according to a legalistic approach focus on the transgressor (prosecution), accommodative inspectors focus on the infringement itself and the prevention of damage. Inspectors with a legalistic approach often think of themselves as ‘policemen’, while conciliatory inspectors see themselves as ‘politicians’ or ‘consultants’.

One can imagine that EU Member States with different enforcement styles execute the enforcement of EU legislation differently. This is bound to have an impact on the regulated. Do Member States enforce legislation differently? Can a uniform application of Community rules throughout the European Union be found in practice? To what extent do possible differences in enforcement styles influence the existence of equivalent conditions for the regulated within the Member States?

1.4 Research questions

“More effective enforcement of Community law is necessary not only for the sake of efficiency of the internal market but also to strengthen the credibility of the Union and its Institutions.”

White Paper on European Governance, COM(2001) 428, p.5.

This question whether enforcement differs and whether uniform rule application and equal starting points for regulated in different EU Member States exist in practice leads to three research questions:

- 1) *Do Member States enforce EU legislation differently? In other words, can different enforcement styles be distinguished?*

The main objective of this study is to map the different ways of enforcing EU legislation in various Member States. Do Member States enforce the same Community law in a comparable manner or can differences be noticed? To answer this question, enforcement practices are compared. Special attention is paid to the general organisation of the enforcement (e.g. what sort and how many enforcement agencies are used), the inspections (e.g. the frequency and length of inspections) and the sanctioning practice (e.g. the frequency and severity of sanctions). These findings are summed up in the question whether Member States have different enforcement styles while enforcing the same European legislation?

- 2) *Do regulated in various Member States comply with EU legislation differently? Can different compliance costs be distinguished?*

The second question is related to the regulated instead of the regulators. In principle the regulated citizens and companies in the different EU Member States have to abide by the same standards, namely those formulated in the directive. But what do these rules mean for them in practice at the 'street level'? Do they exhibit similar or different compliance practices? And do these compliance practices entail that companies in different countries are confronted with different costs of compliance?

- 3) *How can differences in enforcement and compliance practices be explained?*

After a description of the possible different enforcement and compliance practices this study focuses on an explanation for these differences. This is an explorative research. The main objective is not to provide an explanatory model. It does, however, explore the possible factors that might explain differences. What factors cause possible differences between countries or enforcement agencies in the way they enforce rules? What factors influence differences in compliance practices and compliance costs between regulated? Is there a link between the differences in enforcement styles and differences in compliance practices; do possible differences in enforcement styles influence or cause differences in compliance costs? Can the main explanatory factors for differences in enforcement and compliance be found in the nature of the rules; in the enforcement tradition in a country or enforcement agency; in the political structure of a country or region; in the main actors involved in the transposition and enforcement?

1.5 The topic and countries chosen

"Explosion swept away housing estate in Enschede."

De Volkskrant, May 15, 2000.

"Toulouse accident kills 15, injures 250."

The Guardian, September 22, 2001.

Every once in a while major accidents happen in modern society. Accidents related to the handling of dangerous chemicals or other dangerous and explosive materials. In recent years, especially two major accidents within the chemical industry had a large impact upon society:

the explosion of a fireworks storage facility in Enschede, the Netherlands, and the blast in a petrochemical and fertiliser factory in Toulouse, France. The explosion in Enschede resulted in the death of 23 people, the injury of hundreds of people and the destruction of about 400 houses. The blast in Toulouse in the end killed 29 people, injured hundreds of people and made about 400 families and 1.500 students homeless. Both accidents led to heated discussions, on both national and European level, on the enforcement of legislation. In the Netherlands questions arose why a fireworks storage facility could be located in a housing estate. Were all safety measures enforced or not? If so, who enforced these measures, when and how?

These examples show that the enforcement of legislation dealing with dangerous chemicals is of extreme importance. This study uses the area of safety, health and environment regulation within the chemical industry as an example to study rule application. Within this policy area, four Member States and two directives have been selected to study the potential differences in enforcement practices and enforcement styles and in compliance practices and compliance costs.

This study is conducted within four Member States of the European Union: the Netherlands, Germany, the United Kingdom and Spain.⁶ The choice for these four countries is based upon presumed differences in enforcement styles. Roughly speaking – when characterising the enforcement styles from ‘passive’ to ‘legalistic’ – within literature the Spanish variant is typified as the most lenient, than the British style, followed by the Dutch style and the German enforcement style, finally, is characterised as the most legalistic within Europe.

Spain is selected as a southern country because of the reputation of southern Member States to have no enforcement at all: *‘Non-compliance with EU (environmental) policy is often considered to be a ‘southern problem’. Because of specific features of their political systems, the four southern European Member States are believed to lack the capacity for effectively implementing EU policies.’* (Börzel, 2000: 141) The Spanish enforcement style can therefore be expected to be ‘passive’. Furthermore, an often-made distinction within Europe is the one between Germany and the United Kingdom. These two countries are seen as the two extremes within the European Union when it concerns their enforcement styles. In general, Germany is considered to be rather legalistic in its approach towards dealing with legislation and the United Kingdom is seen as having a more flexible and informal style. *‘Regarding the dominant regulatory style, Germany approaches the interventionist ideal type whereas Britain reflects the mediating type more closely.’* (Knill and Lenschow, 1998: 597) The Dutch enforcement style, finally, can be situated between Germany and the United Kingdom. Haverland summarises it – in the context of packaging waste policy – as ‘German rules and British application’ (Haverland, 1999b: 271).

As a background for understanding this study on the enforcement of EU directives, the descriptions of the national transposition and enforcement styles of the four Member States already available within literature are shortly presented.

1.5.1 The Netherlands

The Netherlands is a constitutional monarchy with approximately 16 million inhabitants. According to the structure of the administration the Netherlands is a decentralised unitary state. There are three layers of government on which decisions can be made: the national administration, the provincial administration and the local or municipal administration. The Netherlands is divided into 12 provinces and 496 municipalities (since 1-1-2002). European legislation is always transposed on national level, even though sub-national governments

might have competencies in certain policy areas. Usually one ministry takes the lead in the transposition of directives. This will be the ministry most involved in the topic of a directive. As a rule, other departments that are concerned with the topic at stake are involved in the transposition process. The responsible ministry makes the draft after which it consults the other ministries involved. Normally, the other ministries accept the draft presented by the lead ministry. Often third parties such as consumer, environmental or industry representatives, are consulted as well.

Within the Netherlands European legislation is usually transposed via secondary legislation.⁷ (De Gier, 1991: 43) A study by Siedentopf and Ziller that compared the transposition of 16 EU directives in different Member States shows that the Netherlands used secondary legislation in 13 of the 16 cases. Of the three remaining directives two were transposed via primary legislation (a law) and one was not transposed at all. In this study that compared ten countries, the Netherlands was the country that used secondary legislation most often since the other countries showed an average of transposing eight directives via secondary legislation (Siedentopf and Ziller, 1988a: 54). Because of this preference for secondary legislation, parliament is hardly ever involved in the transposition.⁸ The low level of involvement is also a consequence of a lack of interest in European legislation. Since the late 1980s and beginning of the 1990s, parliament is becoming more interested, however. There are more debates on European affairs; parliament asks for more information and produces more documents on European matters (Van Schendelen, 1996: 63).

Till the 1990s the Netherlands had a rather bad reputation when it came to transposing European directives. In 1991 the Netherlands was responsible for the Presidency of the European Community. Because of this, it showed interest in its backlog in transposition. Research showed that 30% of the EU directives were transposed late in the Netherlands (Bekkers et al., 1995: 397). The main reasons for being late so often were organisational problems such as appointing the responsible ministry, the arrangement of co-operation between different ministries, a lack of personnel to translate the directives and conflicts between different political levels (Siedentopf and Ziller, 1988b: 585). Another problem was the Dutch '*tendency towards (juridical) perfection*' (Siedentopf and Ziller, 1988b: 588). Often the Netherlands tried to combine the transposition with national legislative projects, which delayed the process of transposition. One problem with transposing European legislation in the Netherlands is most prominent: the difficult co-ordination between Dutch ministries (Siedentopf and Ziller, 1988b; Siemons, 1992; Bekkers et al., 1995). The Netherlands has a reputation in this respect. In the 1980s, the Netherlands was referred to as the '*Republic of the Fourteen Disunited Departments*' (Andeweg, 1988: 132). All ministries try to protect their own interests and the interests of their supporters. This leads to difficulties since ministries do not want to hand over responsibilities and there often seems to be a lack of co-ordination. Once the right transposing actors are known, however, the Dutch transposition process seems to be rather smooth and without major problems.

Although there are differences noticeable between different enforcement agencies and between different regions in the country, in general the enforcement style in the Netherlands can be called a '*non-legalistic, situational and accommodative enforcement style*' (Aalders and Wilthagen, 1997: 421). There is quite some room for negotiations and discussions between inspectors and regulated. The style is also considered to be co-operative; inspectors try to convince the regulated of the need of co-operation. Dutch inspectors consider it to be important to build up a good relationship with the regulated. The inspectors have a considerable

amount of discretion: 'A public officer has discretion whenever the effective limits on his power leave him free to make a choice among possible courses of action or inaction.' (Siemons, 1988: 333) Supervisors relatively seldom check the inspectors; inspectors themselves decide what companies to inspect, what aspects to inspect, who to talk to and how to enforce. This relative large amount of discretion might lead to differences in enforcement between different inspectors. Generally there is an emphasis on informal enforcement techniques such as the giving of advice, persuasion and negotiations. They rather try to persuade companies instead of using formal legal powers. Infringements, unless very severe, will not be sanctioned immediately. Usually, companies are given a second or sometimes even third opportunity to improve the situation; inspectors try to talk to a company to persuade them to undo the infringement. Immediate sanctioning might disturb a good relationship with a company. If persuasion does not work stricter measures will be used, but only as a last resort. Overall '(...) Dutch inspectors regularly bend detailed rules to fit their own idea of good regulation, adopting a flexible policy implementation style.' (Siemons, 1992: 446)

1.5.2 Germany

Germany is a Federal Republic with about 82 million inhabitants. State functions are divided between the central government and the 16 federal 'Länder'. One of its characteristic features is that the state of the Federal Republic of Germany and the individual Länder are all states in their own right. Each of the 16 German Länder has its own parliament and government, its own authorities, courts and also its own constitution. The Länder are further divided into districts ('Regierungsbezirk'), county councils ('Kreis') or city councils ('kreisfreie Stadt') and municipalities ('Gemeinde'). In addition, the Länder play a role through the 'Bundesrat' (the central chamber where the 16 Länder are represented) in the national legislative process. Some policy areas are the responsibility of the central government, others of the Länder. The most important function of the Länder is their competency in cultural and educational terms (Burkens, 1998: 142).

The transposition process in Germany is complicated because of this division of competencies between the federal level and the Länder. In some cases, the Länder are responsible for the transposition of (parts of) European directives. Whenever a directive touches upon a topic for which the Länder are competent, the Länder are the actors responsible for the transposition. This might lead to problems since the various Länder might find different solutions to transpose a directive: '*Germany is a federation in which responsibilities, or competences, are divided between Bund and the Lander in different ways, depending on the subject. The process of formal implementation has frequently been complicated by the fact that each lander has to introduce legislation or administrative measures, and they will not all do this in the same way.*' (Haigh, 1986: 103) When Länder have to transpose Community law there is a chance that different ministries and different sorts of legislation will be used. Therefore, the possibility exists that the circumstances for the regulated in different Länder are not equal; in Germany alone uniform rule application might be hard to reach. A complicating factor is that the federal level is dependent on the activities of the Länder. The federal government cannot force the Länder to transpose the directives, but the federal government will be held responsible in case of non-compliance.

In the earlier years of transposing Community law, attempts were made in Germany to transpose the sometimes unclear European directives into a well-worded national law. Often these attempts were more severe and detailed than the content of the European directive itself was. Because of, amongst others, the lengthy procedure to arrange this, Germany was often late

with the transposition. Therefore, Germany changed this tradition and the last few decades they more often 'take the directive over as it stands' (Siedentopf and Ziller, 1988b: 169).

A study by Siedentopf and Ziller shows that the legislation used in Germany to transpose directives differs from the practice in other Member States (Siedentopf and Ziller, 1988a/b). In this study, ten different Member States were compared in how they transposed 16 EU directives. Of the ten countries studied, Germany was the country that transposed most directives into primary legislation (law; 'Gesetz'). In the other countries, secondary legislation was more commonly used. Whereas other countries show an average of two directives transposed by primary legislation, Germany transposed seven directives via laws. Germany only transposed four directives by using secondary legislation (ordinance; 'Verordnung'), whereas the other countries all transposed an average of eight directives via secondary legislation. Another difference is the use of already existing national legislation for the transposition. Whereas Germany transposed five of the studied directives via already existing legislation, the other nine countries on average only transposed one directive into already existing legislation (Siedentopf and Ziller, 1988a: 54). This study also showed that in many cases the already existing German legislation had higher standards than the ones prescribed in the directives.

The enforcement of European legislation is in all cases, just as is the case with national legislation, delegated to the Länder. Even when the topic of regulation is the responsibility of the federal government, the Länder are the actors in charge of the enforcement. In this process, the Länder have much discretion how to execute the enforcement (Jones, 1997: 143). The federal level has no control over the enforcement by the Länder. The Länder are free to decide what sort of bodies and procedures to use and this might possibly lead to large differences in enforcement practices between the 16 Länder. According to Saalfeld, it is problematic that the Länder have to enforce legislation that they did not set up themselves: '(...) given that most EU legislation is implemented by the German federal states, it has been problematic that the federal states may have no say in the formulation of legislation which they must implement.' (Saalfeld, 1996: 16)

Even though there might be differences in how the 16 Länder enforce legislation, some general characteristics of German enforcement can be found within the literature. According to Van Waarden (Van Waarden, 1995: 362) the German style of dealing with regulation can be characterised by concepts such as corporatism, legalism, consensualism, interventionism and formalism; concepts that are shared by other authors as well (e.g. Brickman et al., 1985; Haverland, 1999a; Richardson et al., 1982; Wilks and Wright, 1987). The relationship between regulators (inspectors) and regulated (companies) is co-operative but rather formal; it can be characterised as 'formal co-operation' (Brickman et al., 1985: 247). Knill characterises the relationships as formal, legalistic, adversarial and closed (Knill, 1997: 19). Overall, the German enforcement style is characterised as 'legalistic' and 'strict': '*The legalistic style is defined as having strict respect for formal rules while avoiding pragmatic interpretations.*' (Siedentopf and Ziller, 1988a: 63) There is not much flexibility for inspectors when enforcing the rules. Rules are formulated precisely and implemented inflexibly (Brickman et al., 1985: 225). The enforcement is rather strict, there is little discretion for the inspectors and there is a large emphasis on the concept of equal treatment of all regulated.

1.5.3 *United Kingdom*

The United Kingdom (UK) has about 59 million inhabitants and consists of four different parts: England, Wales, Scotland and Northern Ireland. ('Great Britain' only refers to England, Wales and Scotland.) The different parts are governed by one central government. The three

non-English parts each do have their own Cabinet Department within this central government that is responsible for its own internal affairs (e.g. the ‘Scotland Office’ and the ‘Welsh Office’). Legislation often contains different sections for the differing regions of the UK. Sometimes, even separate legislation is necessary. The four parts are each further divided into sub-national governments. England and Wales are divided into counties and districts, each with their own councils. Scotland is divided into regions and districts and three island authorities. Northern Ireland consists of districts as well. The UK is often called a centralised state because of the dominant position of the central government over the local authorities. Local authorities can only undertake what is explicitly delegated to them by legislation; they have ‘*no powers except those conferred upon them by statute*’ (Wilson and Game, 1994: 97).

Usually one governmental department takes the lead when it comes to British representation at the negotiations on European level. After the approval of a directive by the Council of Ministers, this department is then also responsible for the transposition of the directive into British legislation. Contacts with other departments are usually informal and not institutionalised. Normally, the other departments without any problems will accept the point of view of the lead department (Siedentopf and Ziller, 1988b: 649). There are also informal contacts with important issue groups. In general, sub-national governments, such as the counties and districts, are not involved in the transposition process. The centralisation of the transposition makes it relative quick, easy and simple. In some cases the situation becomes more complicated, however. Northern Ireland often transposes Community law separately from Great Britain. Sometimes even Wales and Scotland use their own legislation as well. This could lead to the situation in which the transposition differs in the different parts of the United Kingdom. Before the entry of the United Kingdom in the European Community, international treaties were subordinate to national law. In order to make the transposition of European legislation feasible the UK had to accept the ‘European Communities Act’ in 1972. This is an enabling act that provides the possibility to transpose European rules into British legislation. It also provides the principle of direct application of EU legislation. In most cases Great Britain transposes directives by using secondary legislation (regulations) (De Gier, 1991: 86). A study on the implementation of 16 European directives showed that in Great Britain only four directives were transposed via primary legislation (act of parliament). Eight were transposed by secondary legislation and four by lower administrative instruments (Siedentopf and Ziller, 1988a: 54).

The United Kingdom has a reputation of transposing directives as literally as possible: ‘*The UK government is generally fearful of so-called “gold-plating” when transposing Community legislation. Gold-plating is the laying down of stricter requirements in national transposition legislation than in Community legislation. Consequently, the UK government tries as far as possible to transpose Community legislation literally, word for word.*’ (Lugt, 1999: 132) Despite their so-called ambivalent attitude towards the European Union, British civil servants are characterised as loyal implementers. The United Kingdom has a reputation of being quick and thorough in transposing directives.

Vogel describes the British enforcement style as ‘*an absence of statutory standards, minimal use of prosecution, a flexible enforcement strategy, considerable administrative discretion, decentralised implementation, close co-operation between regulators and the regulated, and restrictions on the ability of non-industry constituencies to participate in the regulatory process.*’ (Vogel, 1986: 70).⁹

In the United Kingdom the enforcement thus seems to be flexible; inspectors have quite some policy discretion. Inspectors have room to negotiate with the individual companies and local and company-specific conditions can be taken into consideration. Important for inspec-

tors is the concept of 'reasonableness' of the regulation. They find it important to understand the transgressor's problem and look into local circumstances. Regulation may not lead to an 'unreasonable' economical burden. Costs for the regulated when complying with regulation are considered important in the UK. British inspectors find it important to maintain good relations with the regulated. There is intensive co-operation between inspectors and regulated; the relationship between both is rather personal. The inspectors are convinced they reach better results by co-operating with the companies than when acting as a policeman: *'We look upon our job as educating industry, persuading it, cajoling it. We achieve far more this way. The Americans take a big stick and threaten, 'solve your problem'. We say to industry, 'look lads, we've got a problem'. In this way we've got industry well and truly tamed.'* (Vogel, 1986: 89) There is a focus on negotiation and persuasion. Inspectors try to persuade companies to comply with the regulations. The giving of advice and information is important, therefore. The goal is to improve the situation and not to punish transgressors. This results in the situation in which inspectors do not often sanction industry. Prosecution is often seen as a last resort when nothing else is possible. It is also seen as a defeat; the regular method of co-operation failed to work. *'The relationship of the British inspector to the polluter has been 'more like that of a doctor getting the patient's co-operation than a policeman apprehending a culprit.'* (Heidenheimer et al., 1990: 324)

In recent years, however, the British enforcement style is changing. Lugt studied the enforcement of food law in the United Kingdom and observed a strict enforcement in this area (Lugt, 1999: 237-238). As a result of the influence of the European Union the use of more legal rules is apparent (Hutter and Manning, 1990: 122). A larger emphasis on efficiency and effectiveness is noticeable and the counting of prosecutions is becoming more important to see whether enforcement is efficient. In general, enforcement is becoming more stringent, formality is becoming more important and prosecutions are more easily made. Majone notices this change especially in the area of environmental policy: *'It is clear (...) that there is now a greater stress upon formality and due process. The greater willingness to prosecute those in the breach of consent or permit conditions (...), the increased caution about informal discussions with industry setting of standards, and the establishment of statutory water quality objectives all indicate a trend towards an emphasis upon formality and due process previously absent from Britain's generally co-operative system of regulation.'* (Majone, 1996: 127)

1.5.4 *Spain*

Spain has a shorter experience as a democratic nation than the three other countries in this study have. Franco's death in 1975 made an end to his absolute power and took away the last resistance to a transition towards democracy. The new constitution adopted in 1978 transformed Spain into a democracy. Spain has over 39 million inhabitants and is often called a semi-federal state because of the division into Autonomous Communities. There are 19 autonomous areas: 17 Autonomous Communities ('Comunidades Autónomas') and 2 Autonomous Cities ('Ciudades Autónomas'), namely Ceuta and Mellila in Northern Africa. The Autonomous Communities are further divided into 50 provinces and over 8000 municipalities. In general, the Autonomous Communities are responsible for town planning, museums, regional language, tourism and social welfare. The state remains responsible for taxes, police and foreign affairs. All judicial powers remain on the national level as well. The Communities and the state share the responsibilities for agriculture and economic development (Moxon-Browne, 1989: 64).

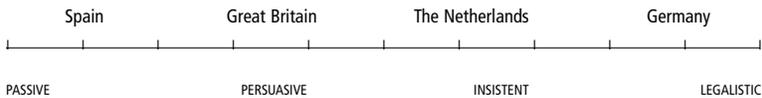
In Spain the semi-federal structure of the state makes the transposition rather complicated. The directives usually are transposed into national legislation on national level after which the Autonomous Communities are responsible for executing the enforcement. In some cases, when issues are involved that concern regional competencies, the Autonomous Communities will have to further enact the national legislation and produce regional legislation as well. This division of responsibilities is not without problems: *'The presence of several decision layers makes it possible for any of them to deny accountability, blaming someone else for implementation delays or difficulties.'* (La Spina and Sciortino, 1993: 224) On national level, there is no complete overview over whether the different Autonomous Communities are further enacting the national legislation that transposed the European directives. Some Autonomous Communities have special bodies to take care of the implementation of EC legislation, but not all. Spain usually transposes directives very literally. In general, most European directives are transposed into Spanish legislation by using a form of secondary legislation, a royal decree ('Real Decreto'). Parliament is hardly involved in the Spanish transposition process (Closa, 1996: 145).

It deserves to mention that Spain especially had a hard time transposing all EC directives already in force when they entered the European Community in 1986. They then had to transpose approximately 800 directives at the same time (Rivero González and Heredia Benot, 1995: 187). In general, there are a few main reasons why Spain has difficulties transposing European directives: *'Weak control mechanisms explain why many EC/EU directives, for instance, are only slowly implemented, indicating a considerable degree of ground-level discretion for policy actors engaged in implementation in the relevant policy areas.'* (Gibbons, 1999: 130) Besides the weak control mechanisms, mention is made of a lack of finance, competition between the state and the Autonomous Communities over competencies, bad cooperation between all actors involved and the overlap of responsibilities.

A presence of majority governments in the 1980s and the beginning of the 1990s made it possible to have a top-down, executive-led policy style. *'The historic reluctance of policy-makers in Spain to incorporate collective policy actors such as pressure groups into the policy process other than in a temporary, rather expedient, way has led, as we have seen, to a top-down policy implementation style, with elitist tendencies.'* (Gibbons, 1999: 134) The absence of a real opposition during the majority governments (1982-1993) of the socialist party ('Partido Socialista Obrero Español') provided for the situation in which the government could afford to be rather arrogant when making and implementing policy. There were no actors whom they had to respond to when making and implementing policy.

The Autonomous Communities are responsible for the enforcement of legislation. In general, the enforcement and sanctioning structures in Spain are lacking and weak. La Spina and Sciortino refer to this problem by using the term 'Mediterranean syndrome'. In their study, they describe three aspects in specific that lead to this syndrome: *'1) a kind of 'civic culture' which sanctions non-cooperative and non-compliant behavior; 2) administrative structures and traditions which make the enforcement of regulative as well as distributive policies difficult and often random; and 3) viscous, fragmented, reactive, and party-dominated legislative processes.'* (La Spina & Sciortino, 1993: 219) There are problems with enforcement of environmental legislation in particular. The environmental checks are not only weak, but until not so long ago there was not even a body in charge of checking and monitoring compliance with environmental legislation. There is a lack of serious sanctions for non-compliance (La Spina and Sciortino, 1993: 225).

As the description of the transposition and enforcement styles in these four Member States shows, it can be expected in this study that there are quite some differences between the countries in how they enforce EU directives. It can be expected that the enforcement will be rather problematic and passive in Spain because of lacking and weak enforcement structures. The enforcement style in Great Britain is likely to be rather flexible and co-operative whereas the Germans are expected to show the most legalistic and formal attitude.¹⁰ Dutch inspectors are expected to show an enforcement style that is less legalistic than the German style but not as flexible as the British one is.



1.6 The directives chosen

In order to study the existence of uniform rule application in the Netherlands, Germany, the United Kingdom and Spain, two directives have been chosen to study in specific. The reason why directives have been selected instead of one of the other types of European legal instruments is the fact that the directive is the most common instrument to use in the area of regulating safety, health and the environment.¹¹ The two directives related to dangerous substances policies are the Seveso II directive (96/82/EEC) and the directive concerning safety data sheets (91/155/EEC). Both directives are important for the regulation of working safely with dangerous substances in the chemical industry. In selecting these two directives, it has been checked that they

- are known by the regulated;
- generate explicit enforcement tasks for the regulators;
- generate clear compliance costs;
- regulate requirements that are understandable for a non-chemist.

The Seveso II and safety data sheets directives both meet these requirements. Both directives at first seemed old enough to actually produce an existing enforcement practice. For the safety data sheets directive no problems were encountered in this respect. The Seveso II directive did lead to some difficulties. Only two Member States (NL, GB) were checked for the existence of an enforcement practice. When conducting the empirical part of this research (November 1999 – November 2001) it seemed that Germany and Spain generated data collection problems due to internal difficulties with the transposition of the directive. For more information, see Annex I. It has been decided to select two directives that regulate safe working with chemicals, but have a different scope and nature.

1.6.1 *The Seveso II directive*

The ‘Seveso II Directive’ of 9 December 1996 (96/82/EEC), first drafted by DG Environment, concerns the control of major-accident hazards involving dangerous substances.¹² As stated in Article 1, its aim is to protect both man and the environment against those hazards: *‘This directive is aimed at the prevention of major accidents which involve dangerous substances, and the limitation of their consequences for man and the environment, with a view to ensur-*

ing high levels of protection throughout the Community in a consistent and effective manner'. On the one hand the directive regulates consequences of major accidents for the environment, but on the other hand it also regulates the protection of employees of a company as well as people outside fences of, for example, a chemical plant.

The Seveso II directive replaces the first Seveso directive (82/501/EEC) of June 1982.¹³ The first directive was set up because a number of accidents took place in the chemical industry in the 1970s. Especially two specific accidents led to formulating Seveso I. The first was the Flixborough accident of 1974 in the United Kingdom. In this case, an explosion and fire led to 28 fatalities and the destruction of the plant. In Seveso, Italy, a vapour cloud containing dioxins escaped from a chemical plant in 1976. 2000 people had to be treated for dioxin poisoning. The directive was named after this specific accident. After three years of negotiations between the Member States, the Seveso directive was adopted in 1982. The directive could not prevent all accidents with dangerous substances from happening, however. Two accidents outside the European Union led the Commission to propose two amendments to the directive. The first amendment was in 1987¹⁴ as a consequence of the Bhopal accident in India in 1984, which caused more than 2.500 deaths. This amendment was especially meant to prevent differing interpretations between the Member States and corrected and clarified some entries and threshold levels in the Annexes. The second amendment came in 1988¹⁵, and was a reaction to an accident in Basel, Switzerland, in 1986, which caused major environmental pollution of the Rhine. This amendment focused on the inclusion of isolated storage of dangerous substances, since the old Seveso directive would not have prevented this accident because it did not pertain to storage. Both amendments aimed at broadening the scope of the directive.

The European Commission and the European Parliament considered both amendments as insufficient to fully guarantee the aim of preventing major accidents. Therefore, a complete revision of the directive was recommended. Long negotiations eventually led to the acceptance of the second Seveso directive in 1996. One of the main reasons for a completely new directive instead of a third amendment was a change in focus on more general management systems. This new focus occurred *'(...) due to the recognition that approximately 85% of over 300 accidents reported under Seveso I have shown some deficiencies in the management system'* (Porter and Wettig, 1999: 3). This change was considered to be too essential to regulate in an amendment alone.

Besides the focus on management systems, Seveso II changed a few other elements as well compared to the first directive. Firstly, the scope was broadened and simplified. Whereas the first directive showed a list of industrial installations that were to be regulated, the second mentions a shorter list of named substances. For example, according to Annex I of the first directive, all companies housing certain installations, such as *'installations for the production of metals or non-metals by the wet process'*, had to comply with the Seveso obligations. Seveso II changed this and Annex I of this directive shows a list of named substances. All companies that have these substances, such as ammonium nitrate, chlorine, acetylene and methanol, present in a certain quantity need to comply with the directive. This makes it easier to identify the companies that are to be regulated by this directive.

Instead of focusing on individual installations, the new directive focuses on entire establishments. An establishment, according to Article 3 of the Seveso II directive, is *'the whole area under the control of an operator where dangerous substances are present in one or more installations, including common or related infrastructures or activities'*. An installation, according

to this Article, is ‘a technical unit within an establishment in which dangerous substances are produced, used, handled or stored’. An establishment usually houses more than one installation. Large establishments can, for example, even have more than 50 installations.¹⁶ This new focus resulted from the attention to management systems. It is now recognised that it is better to focus on the management of an entire establishment instead of focusing on individual technical installations alone.

Another element that changed since the first directive is the addition of land-use planning. Member States now have to consider the possibility of major accidents when conducting land-use planning. A final major difference between both directives is the extension of the article on inspections. Member States are obliged to enforce the directive in a coherent manner. This was added, mainly on behalf of some northern Member States complaining about the enforcement of southern colleagues, in order to reach a more resembling approach towards inspections throughout the entire European Union.

The Seveso II directive is a rather complex and extensive directive. It consists of 26 Articles and six Annexes covering 21 pages (10 pages for the directive and 11 for the Annexes). In order to be able to understand the requirements which regulators have to enforce and regulated have to comply with, a short description of the content of the articles of the directive is presented.

Article 1: Aim

As can be seen above, the first article specifies the aim of the directive. It shows that Seveso II focuses on two aspects related to major accidents: prevention of major accidents and the limitation of their consequences.

Article 2: Scope

The directive makes a distinction between two categories of establishments depending on the quantity of substances they have present. The two categories are referred to as ‘upper tier’ and ‘lower tier’ establishments. The first Annex of Seveso II gives two lists with quantities of substances that can be present within an establishment. Establishments with the higher quantity of substances are called ‘upper tier establishments’ and must fulfil more obligations than the ‘lower tier establishments’ with fewer quantities present. An example can be given of the dangerous substance ‘ammonium nitrate’. Companies that have ammonium nitrate in a quantity less than 350 ton have no ‘Seveso-obligations’ at all. According to Annex I, column 2, if companies have 350 ton or more of this substance available, they are a Seveso lower tier establishment. If they have 2500 ton or even more available, column 3, they are considered an upper tier establishment. Of the more hazardous substance ‘arsenic pentoxide’, for example, companies can only have less than one ton present in order not to be considered a Seveso establishment. Companies with one ton or more are considered lower tier companies and companies with two tons or more fall into the upper tier category.

Article 3: Definitions

This article was needed because different Member States seemed to have deviating definitions for some concepts. Especially concepts such as ‘establishment’, ‘installation’, ‘major accident’ or ‘hazard’ seemed to have different meanings in the various countries. Therefore, this article was needed to make sure that confusion would be prevented. As described above, the Seveso II directive is focused on establishments, but the first Seveso directive was focused on installations. Especially the definitions of these two concepts were necessary.

Article 4: Exclusions

This article states that the Seveso II directive does not apply to military establishments, ionising radiation, transport of dangerous substances, extractive industries and waste landfill sites. For these establishments and activities separate legislation exists or will be set up.

Article 5: General obligations of the operator

All operators working with dangerous substances have two general obligations: Member States have to make sure that operators take all measures needed to prevent major accidents and operators must in all times demonstrate to the competent authority (Article 16) that all obligations are fulfilled.

Article 6: Notification

Operators themselves have to notify to the competent authority that they are a 'Seveso establishment'. This notification should contain some general information, such as name and address, the quantity and physical form of the dangerous substances and the sort of activity of the installations present. Already existing establishments were given the deadline to hand in the notification before 3 February 2000.

Article 7: Major accident prevention policy

All establishments should have a 'Major Accident Prevention Policy' (also referred to as MAPP) available. Annex III of the directive provides a further explanation of what is meant by this MAPP: '*The major accident prevention policy should be established in writing and should include the operator's overall aims and principles of action with respect to the control of major accident hazards.*' There is a small difference between lower and upper tier establishments on what to do with the MAPP-document. For lower tier establishments, the MAPP-document should be available at the site: operators do not have to send it to the competent authority. Upper tier establishments have to show their MAPP-document to the competent authorities as a part of their safety report (see Article 9).

Article 8: Domino effect

There might be certain areas in Member States where 'Seveso establishments' are located close together, for example in special industry-parks. In these cases, there might be a danger of 'domino effects' occurring. Whenever one establishment has a major accident, it might be possible that this will affect neighbour establishments because of their location or dangerous substances present. According to this article, the governments of the Member States are responsible for mapping the areas in their country where these domino effects might occur. After this mapping by the government, the operators inside these co-called hazardous areas are obliged to exchange information.

Article 9: Safety report

Only upper tier establishments are obliged to hand in a safety report. This safety report forms the crux for the upper tier establishments in complying with the Seveso II directive. The report should contain a huge amount of information and is much work to set up. Annex II of the directive describes all information that should be present within the safety report. Establishments that already had obligations under the first Seveso directive had to hand in their safety reports before 3 February 2001 and establishments that were new to the Seveso obligations had to hand it in before 3 February 2002. The entire safety report has to be evaluated and if necessary updated every five years.

Article 10: Modification of an installation, an establishment or a storage facility

In the event of changes within the establishment, the operator has to check its MAPP-document (lower tier operators) or safety report (upper tier operators) to see whether the information is still valid.

Article 11: Emergency plans

The Seveso II directive foresees in two types of emergency plans: internal and external emergency plans. The aim of the plans is to be prepared in case of an accident. Both emergency plans only have to be made for upper tier establishments. The internal plans have to be made by the establishments themselves. The external emergency plans have to be made by the government. Annex IV describes the information that should be available within both sorts of plans. The plans need to be checked every three years.

Article 12: Land-use planning

Land-use planning is a responsibility of the government. This article states that the Member States should take into account, in their national land-use planning legislation, the objectives of this directive. Member States have to consider the possibility of major accidents to occur. They should make sure that appropriate distances exist between the 'Seveso establishments' and public places.

Article 13: Information on safety measures

Upper tier establishments have to alert all people liable to be affected by a major accident. These people should be aware of what to do and how to act in case of an emergency. This information should be updated and if needed repeated every three years. The information should be permanent available to the public.

Article 14: Information to be supplied by the operator following a major accident

After a major accident, the operator should as soon as possible warn the competent authority. The operator should provide information on the circumstances of the accident, the dangerous substances involved and the emergency measures taken.

Article 15: Information to be supplied by the Member States to the Commission

When informed about a major accident by an operator, the Member State has the obligation to inform the Commission about the accident.

Article 16: Competent authority

Most previous articles already mention the 'competent authority'. This should be a special authority, appointed by the Member States, explicitly responsible for carrying out the governmental duties under the Seveso II directive. In most Member States the inspection agency(-ies) responsible for the enforcement are appointed as the 'competent authority'. In the Netherlands, for example this is the environmental authority (provinces and municipalities) and in Great Britain it is a combination of the 'Health and Safety Executive', the 'Environment Agency' and the 'Scottish Environment Protection Agency'. This competent authority is, amongst others, responsible for setting up the 'inspection plan' as described in Article 18.

Article 17: Prohibition of use

If the necessary measures to prevent or mitigate a major accident are insufficient, the Member States have to right to prohibit the use of an establishment.

Article 18: Inspections

The Seveso II directive is one of the first European directives to have an explicit article on inspections. In the introduction of a directive, the Commission always mentions a number of reasons why the directive shows the form it has. In case of the Seveso II directive, point 16 in the introduction explains the reasons for having an explicit article on inspections: ‘*Whereas differences in the arrangements for the inspections of establishments by the competent authorities may give rise to differing levels of protection; whereas it is necessary to lay down at Community level the essential requirements with which the systems for inspections established by the Member States must comply.*’ The article lays down the obligation for Member States to make sure that the competent authority organises an inspection system. This inspection system should include a plan for checking all Seveso establishments in a country and should provide the explicit frequency of checking all upper tier establishments at least once a year.

Article 19: Information system and exchanges

Member States are obliged to exchange information on their experiences with prevention and mitigation of major accidents. In order to enable this exchange of information, the Commission sets up a register and information system with information on all major accidents in the EU.

Article 20: Confidentiality

An aspect very important for the actors involved, especially the state and the establishments, is confidentiality. In special cases it is allowed to keep information confidential. Examples of this are information related to the public security, national defence, commercial and industrial secrets and personal data. This Article led to the decision to ask upper tier establishments to publish two safety reports: one elaborate report with all necessary information for the inspectors so they can assess whether all risks are considered and one more restricted version for the public to inform them about their safety policy.

Article 21: Terms of reference of the Committee

This article refers to some criteria that still need to be set up. According to Article 9, 6 (a), the competent authority can decide to allow an establishment to limit the information required in the safety report. Before this sub-title becomes applicable, the Commission must establish the criteria for such a decision.

Article 22: Committee

A Committee shall be set up with the purpose of advising the Commission on matters related to major accident hazards.

Article 23: Repeal of Directive 82/501/EEC

The old Seveso Directive shall be repealed on 3 February 2000.

Article 24: Implementation

The Member States have to implement legislation to comply with this Directive. The Member States also have to notify the Commission of how this implementation will be carried out.

Article 25: Entry into force

The Member States have to transpose the directive on 3 February 1999.

Article 26

This Directive is addressed to the Member States.

The six Annexes provide the following information:

- Annex I *Application of the directive.* This is the list with all named substances and categories of dangerous substances that are included in this directive.
- Annex II *Minimum data and information to be considered in the safety report specified in Article 9.*
- Annex III *Principles referred to in Article 7 and information referred to in Article 9 on the management system and the organisation of the establishment with a view to the prevention of major accidents.* This Annex presents the information that needs to be given in the major accident prevention policy and the safety management system.
- Annex IV *Data and information to be included in the emergency plans specified under Article 11.*
- Annex V *Items of information to be communicated to the public as provided for in Article 13 (1).*
- Annex VI *Criteria for the notification of an accident to the Commission as provided for in Article 15 (1).*

According to the quantities of substances mentioned in Annex I, the four Member States in this study house the following numbers of lower and upper tier companies:

	NL	D	GB	E
Lower tier	± 150-200	± 1200	± 860	± 300
Upper tier	± 150	± 800	± 440	± 150

As can be seen in the description above, the directive asks quite a number of things from both regulators and regulated. Since it would be too complex and complicated to compare the four Member States in this study on all obligations laid down in the Seveso II directive, two specific aspects were chosen on which the four countries are compared: Article 9 on the safety report and Article 18 on inspections. This study thus only focuses on the upper tier Seveso establishments, since only upper tier companies have to produce a safety report.¹⁷

1.6.2 *The safety data sheets directive*

In order to be able to describe the content of the 'Safety Data Sheets (SDS) Directive' it is important to introduce two other EU directives first. Regulation of the topic of dangerous substances and preparations is rather old within the European Union. In 1967 the Council already adopted the so-called 'substances directive': '*Council Directive 67/548/EEC of 27 June 1967 on the approximation of laws, regulations and administrative provisions, relating to the classification, packaging and labelling of dangerous substances.*'¹⁸ The purpose of this directive is to approximate all national laws, regulations and administrative provisions of the Member States on the notification of dangerous substances, the assessment of the risks of notified substances and the classification, packaging and labelling of these substances. This directive is based on Article 94 (TEC) which means that the aim is to remove barriers to trade between the Member States and prohibit the creation of unequal conditions of competition.

It was thought that the same provisions were needed for dangerous preparations and therefore the Council adopted the so-called 'preparations directive' in 1988: '*Council Directive 88/379/EEC of 7 June 1988 on the approximation of the laws, regulations and administrative provisions of the Member States relating to the classification, packaging and labelling of dangerous preparations.*'¹⁹ The 'preparations directive' has the exact same aim as the 'substances directive' only for preparations. In general, the difference between a substance and a preparation is the number of components. A substance only consists of one component, for example sulphur. A preparation is a compound or solution consisting of two or more pure substances, for example glue, paint or spirits. Both directives have been amended several times since their existence. The preparations directive has been amended five times since 1988 and the substances directive even 28 times since 1967. Renewed scientific and technical knowledge often leads to the amendment of the Annexes of both directives that contain the lists with dangerous substances and preparations. There are no exact figures available on European level on the amount of dangerous substances and preparations that exist. An official list reports that there are a little over 100.000 'existing' substances of which it is estimated that approximately 30.000 are produced, marketed and used. There are also about 2.700 'new' substances. The number of preparations is even harder to estimate. About 95% of the chemicals on the market are preparations and only 5% pure substances. The German authorities, for example, estimated that there are approximately two million preparations on sale in Germany alone.

The reason for the need of the introduction of these two directives lies in Article 10 of the preparations directive and Article 21 of the substances directive. In these two Articles, the Commission obliged itself to establish the safety data sheets directive. Both Articles state that it is necessary to implement a system of specific information in the form of safety data sheets. The early substances directive (Article 21) of 1967 already stated this wish and Article 10 of the preparations directive repeated it again. In this Article 10, the Commission promised to provide the detailed arrangements for this system within the period of three years after the adoption of the preparations directive. The first SDS directive of 1991 fulfilled this obligation written down in this article.

The safety data sheets directive of 5 March 1991 (91/155/EC), first drafted by DG Enterprise, regulates the approximation of laws and is concerned with '*defining and laying down the detailed arrangements for the system of specific information relating to dangerous preparations in implementation of Article 10 of Directive 88/379/EEC.*'²⁰ This directive only regulates the topic of safety data sheets for preparations. Safety data sheets for substances were added during the amendment of the SDS directive in 1993. In general, this first safety data sheets directive regulates the supplying of information in order to be able to work safely with dangerous preparations. In the directive, the European Commission states a main reason for the need of its existence. The labelling alone is not seen as sufficient for working safely with dangerous preparations. Professional users of dangerous preparations also need a more detailed information system. The directive exists of six Articles and one Annex, covering 7 pages (2 for the directive and 5 for the Annex).

Article 1.

The first Article states that persons responsible for placing dangerous preparations on the market, whether manufacturer, importer or distributor, must supply the recipients with information on how to deal with these dangerous preparations. This information is only obligatory for professional industrial users of these preparations; it is not the kind of information that

needs to be given to consumers. Besides, the sheets should be delivered free of charge with every first supply. After that, every adaptation of the preparation must lead to a revision of the sheet. These revisions must be handed out within a year after the adaptations.

Article 2.

The second article leaves Member States with the option to oblige the regulated to deliver the safety data sheets in the national language. Countries are free to choose whether they want to add this obligation.

Article 3.

The third article gives the sixteen obligatory headings a sheet must contain. It prescribes the following 16 headings of information that need to be given:

- 1) Identification of the substance/preparation and of the company/undertaking;
- 2) Composition/information on ingredients;
- 3) Hazards identification;
- 4) First-aid measures;
- 5) Fire-fighting measures;
- 6) Accidental release measures;
- 7) Handling and storage;
- 8) Exposure controls/personal protection;
- 9) Physical and chemical properties;
- 10) Stability and reactivity;
- 11) Toxicological information;
- 12) Ecological information;
- 13) Disposal considerations;
- 14) Transport information;
- 15) Regulatory information;
- 16) Other information.

Article 4.

The fourth Article states that the provision to provide a safety data sheet for dangerous substances will be laid down later. The substances and preparations directives both asked for a system of safety data sheets. This first SDS directive only regulates the sheets for preparations, but this Article promises that the Commission will soon amend this directive to include this provision for dangerous substances as well.

Article 5.

The fifth Article mentions that the Member States must implement the directive on 30 May 1991. Since the directive was adopted in March, this left the Member States with only three months to transpose the directive. The Commission expected that such a short and technical directive would not be difficult to transpose and set a short term.

Article 6.

Finally the sixth and last Article states that the directive is addressed to all Member States.

Annex.

The most important part of the directive is the Annex '*Guide to the compilation of safety data sheets*'. This guide expands on the sixteen headings a sheet must contain and describes in

more detail the information that must be supplied under these headings.

As already promised in Article four of the first SDS directive, the directive was amended. This happened in 1993 with Directive 93/112/EC of 10 December 1993 '*amending Commission Directive 91/155/EEC defining and laying down detailed arrangements for the system of specific information relating to dangerous preparations in implementation of Article 10 of Council Directive 88/379/EEC.*'²¹

The main aim of this amendment, as stated, was to include a system for safety data sheets for dangerous substances as well. The directive is composed of six pages, of which five are devoted to the Annex. The directive consists of three Articles. Article one states that the first SDS directive is amended: Article four is repealed and the Annex is replaced by the Annex to this directive. The second Article states that the Member States must implement the directive by 1 January 1995. The last Article states that the directive shall enter into force on the third day after publication. As Article one announced, the Annex was replaced. The content did not change that much, however. The first Annex already had an environmental chapter with heading 12 on ecological information. In the new Annex this heading was enlarged and also explicitly asks of other headings (especially 6, 7, 13 and 15) to take notice of environmental aspects.²²

A safety data sheet usually consists of between four to six pages. The number of companies affected by the safety data sheets directive is impossible to estimate. This directive affects every company that manufactures, imports or distributes one or more dangerous substances or preparations. This number of companies therefore is much larger than the chemical industry alone in all Member States. The above numbers on substances and preparations already show the enormous amounts of safety data sheets that have to be compiled and inspected. Governmental and business representatives in all four countries were unable to estimate the number of affected companies in their own country.

1.7 Sources of information

The transposition of the directives into national legislation has been studied by analysing legal documents and conducting interviews. Both EU directives have been analysed and compared with the national pieces of legislation into which they have been transposed. Interviews were carried out with the two civil servants of the European Commission responsible for the two specific directives. Besides, interviews were conducted with key persons involved in the transposition at the national ministries.

The methods used to explore the enforcement and compliance practices related to the two directives were diverse. Literature on national transposition and enforcement practices, national legislation, guidance material and handbooks on the subject of the two directives have been studied. The main part of the information has been obtained by a combination of interviews and questionnaires. People in different categories have been interviewed. Interviews have been held with representatives from ministries, inspectors responsible for the enforcement of the directives and representatives of companies that have to comply with the directives. The main emphasis has been on inspectors and companies. Besides the interviews, a questionnaire has been sent to both inspectors and chemical companies. In total, 106 people have been interviewed and 210 people completed the questionnaire. The exact numbers divided per directive, country and organisation can be found in Annex I.

1.8 Structure of the book

This book is divided into four main parts. After this introduction, part I continues with chapter two that presents the theoretical framework. In this framework both the dependent variables used for the descriptions of the enforcement and compliance practices and the independent variables used to analyse the differences are introduced.

The first two research questions on whether there are differences between Member States in how regulators enforce and regulated comply with EU directives are covered in part II. Chapter three and four describe the four national enforcement (chapter three) and compliance (chapter four) practices related to the Seveso II directive. Chapter five and six do the same for the safety data sheets directive. The last chapter of part II (chapter seven) attempts to express possible differences in enforcement and compliance practices in 'enforcement styles' and 'compliance costs'. The main differences between the four Member States as well as between both directives are presented.

How can differences in enforcement practices or enforcement styles and compliance practices or compliance costs be explained? This third and last research question is the theme of part III. The factors that might explain differences are divided into four categories. Chapter eight describes the 'saliency'; chapter nine deals with impact of the 'legal design'; chapter ten focuses on the 'organisational structure' and chapter eleven deals with the 'street-level actors'. The last chapter of part III (chapter twelve) summarises and compares the impact and influence of the various explaining variables.

Finally part IV presents the conclusion (chapter thirteen).

Notes

- 1 Exception to this rule: if there are no technical barriers to trade and / or discrimination, the European Commission can allow a Member State to deviate from the norm based on Article 95 (TEC).
- 2 European Governance. A White Paper. COM(2001) 428, Brussels, 25.7.2001.
- 3 At the moment there are only three EU agencies with a regulatory role: 'Office of Harmonisation in the Internal Market', 'Community Plant Variety Office' and 'European Agency for the Evaluation of Medicines'. COM(2001) 428: 24.
- 4 In 2001 the Commission already launched three initiatives for European agencies: a European food authority, a maritime safety agency and an air safety agency. COM(2001) 428: 24.
- 5 See 'reform capacity (formal and factual veto-positions) of a country' according to Héritier and Knill (2000).
- 6 Since Germany and Spain are divided into Länder and Autonomous Communities that are separately responsible for the enforcement, it is decided – in this study – to focus on three regions alone. In Germany the enforcement and compliance practices are studied in North-Rhine Westphalia, Baden-Württemberg and Bavaria. In Spain Catalonia, Valencia and Madrid are selected. In the United Kingdom the focus is on the enforcement and compliance practice in Great Britain alone.
- 7 Transposition via secondary legislation in the Netherlands usually involves a 'Decree' ('Besluit'), 'Order in Council' ('Algemene Maatregel van Bestuur') or a 'Ministerial Order' ('Ministeriële Regeling').
- 8 Parliament is only involved when the transposition is arranged by primary legislation (law).
- 9 This same opinion can be found in e.g. Baldwin, 1990; Genn, 1993; Hawkins, 1984; Matthews, 1993.
- 10 This presumption on Great Britain is based on the more numerous and older literature without taking account of the newer trends in literature.
- 11 In the EU there are five different types of legal instruments, specified by Article 249 (TEC): regulation, directive, decision, opinion and recommendation. The two most commonly used instruments are regulations and directives. The difference between both is the direct effect of regulations. A regulation is binding in its entirety and directly applicable in all Member States. Directives are also binding for whom they are addressed to, but leave to the national authorities the choice of form and methods. Regulations are directly applicable and have a direct effect whereas directives must first be transposed into national legislation. Decisions are used to address a smaller group; they are also binding in their entirety upon those to whom they are addressed. The final two instruments, recommendations and opinions, have no binding effect.
- 12 OJ No L 10, 14/01/1997, p. 0013-0033.
- 13 OJ No L 230, 05/08/1982, p. 0001-0018.
- 14 Directive 87/216/EEC of 19 March 1987. OJ L 085, 28/03/1987, p. 0036-0039.
- 15 Directive 88/610/EEC of 24 November 1988. OJ L 336, 07/12/1988, p. 0014-0018.
- 16 An establishment does not have to be the same as a 'company'. A company can have more establishments. Shell, for example, is a company with more establishments – or 'sites' as they sometimes are called – all over the world.
- 17 The main reason for this choice is that the Member States all started their enforcement practice with a focus on these upper tier establishments. The moment this study started in 1999, none of the Member States yet paid sufficient attention to the lower tier cate-

gory to include this category in this study. The main reason why Member States started to focus on upper tier establishments was the fact that the directive did arrange a time schedule for safety report requirements, but not for the requirements with which the lower tier establishments have to comply.

18 OJ P 196, 16/08/1967, p. 0001-0098.

19 OJ L 187, 16/07/1988, p. 0014-0030.

20 OJ L 076, 22/03/1991, p. 0035-0041.

21 OJ No. L 314, 16/12/1993, p. 0038-0043.

22 Since the amendment of 1993, there has been a second amendment of the safety data sheets directive in 2001: *'Directive 2001/58/EC defining and laying down the detailed arrangements for the system of specific information relating to dangerous preparations in implementation of Article 14 of European Parliament and Council Directive 1999/45/EC and relating to dangerous substances in implementation of Article 27 of Council directive 67/548/EEC (safety data sheets).'*' (OJ L 212, 07/08/2001, p. 0024-0033) This amendment mainly regulates that safety data sheets also have to be made for preparations not classified as dangerous, but containing a certain percentage of a dangerous substance. Since these developments are too recent to include in this study, the focus is on the original directive and its first amendment of 1993.

Chapter 2

A theoretical framework

2.1 Dependent variables: dimensions of enforcement and compliance

This research examines differences in the enforcement and compliance practices of four EU Member States in relation to the Seveso II and safety data sheets directives. It compares these enforcement and compliance practices in terms of ‘enforcement styles’ and ‘compliance costs’.

Generally speaking, the enforcement practice is the way in which Member States, enforcement agencies or individual inspectors ensure that the regulated comply with the legislation. Some of the most important variables that comprise the enforcement practice (section 2.1.1) are used to operationalise the term enforcement style (section 2.1.2). The enforcement style of a country refers to the regularities that can be spotted in the enforcement practice. The compliance practice relates to the way in which the regulated make sure that they conform to the requirements within a directive. These compliance practices (section 2.1.3) are compared in terms of compliance costs (section 2.1.4), again based on some of the most important variables that comprise the compliance practice.

The selection of the variables is based on the requirements of both directives and on descriptions of case studies on enforcement and compliance within the literature (see especially Braithwaite, 1985; Genn, 1993; Glim, 1990; Haas, 1998; Hawkins, 1984; Hutter, 1988; Lugt, 1999; Vogel, 1986 and Wilson, 1985).

2.1.1 *Enforcement practices*

The enforcement practice of a Member State is described in three different categories:

- 1) Inspections and assessments.
- 2) The sanctioning practice.
- 3) The relationship between inspectors and companies.

Chapter three on Seveso II and chapter five on safety data sheets both discuss these three topics in order to describe national (or sub-national or even agency-related) practices of enforcing these two directives. Before describing the enforcement practices, each country report starts with a short overview of the enforcement agencies and inspectors involved.¹

1) *Inspections and assessments*

Inspections form the most important part of the enforcement practice. In performing inspections, enforcement agencies actually check the extent to which companies conform to the requirements in a European directive. A major element of the inspection practice is the frequency and nature of the inspections. To what extent do enforcement agencies actively inspect the topic of the directive; are there specific projects to check the compliance? Do inspectors use an inspection-plan or inspection tools? What is the average length of an inspection and how often can companies expect to be visited for the topic of the directive? How much time do inspectors spend per company in total (preparations, visits and after-care combined)? If multiple agencies are responsible for the same directive, are there differences between them in how they enforce this piece of legislation?

Inspections

- ✓ Inspections are outsourced.
 - ✓ Number of inspectors per inspection.
 - ✓ Percentage of inspections focused on the topic of the directive alone.
 - ✓ Extent to which inspectors are free to decide what to inspect.
 - ✓ Usage of an inspection-plan.
 - ✓ Usage of inspection tools.
 - ✓ Average length of the inspections.
 - ✓ Total time that inspectors spend per company.
 - ✓ Frequency with which companies can expect to be inspected.
 - ✓ Differences between enforcement agencies in executing the inspections.
-

The Seveso II directive also asks for a second activity for inspectors to execute: inspectors have to assess the safety reports of upper tier establishments. How do Member States organise and arrange this assessment practice? Are inspectors in contact with the Seveso II companies while they write their safety reports? Do inspectors carry out their own assessments or do they delegate this to private, more specialised, agencies? How many people are responsible for this task and how much time do they spend in total per assessment?

Assessment of the safety report

- ✓ Assessment is outsourced.
 - ✓ Number of assessors.
 - ✓ Percentage of assessors who check the entire report.
 - ✓ Number of man-days per assessment.
 - ✓ Usage of a tool to assess the safety report.
 - ✓ Number of company-visits during the writing of the safety report.
 - ✓ Number of times companies are asked to rewrite the safety report.
 - ✓ Deadline for the assessment.
-

2) *Sanctioning practice*

The sanctioning practice is operationalised in the frequency and form of sanctioning, the types of sanctioning instruments used and the extent to which inspectors consider certain company-specific circumstances before imposing a formal sanction. Do inspectors immediately impose sanctions when they spot an infringement or is there a tradition of giving companies second or even third chances? Do inspectors use 'lighter' instruments such as a written advice or more 'severe' instruments such as prosecutions? Who decides when and for what to sanction: the inspector or the enforcement agency? Is there a common practice of considering aspects such as the size or the financial situation of a company or the severity of the infringement before imposing a sanction?

Sanctioning practice

- ✓ Frequency of sanctioning.
 - ✓ Frequency of warning before imposing a sanction.
 - ✓ Types of sanctioning instruments used most often.
 - ✓ The extent to which inspectors consider...
 - company size
 - the severity of the infringement
 - costs to undo the infringement
 - the financial situation of a company
 - ✓ Actor that decides on sanctioning.
 - ✓ Percentage of companies where a violation was found.
 - ✓ Percentage of companies that received a warning first.
 - ✓ Percentage of companies that received a sanction.
-

3) *Relationship between inspectors and companies*

The final cluster of variables used to describe the enforcement practice is the relationship between regulators and regulated, between inspectors and companies. First of all the relationship in general: do both parties consider this relationship to be good, are the inspections based on co-operation and do they take place in a formal atmosphere? Secondly, the room for discussion and the giving of advice is touched upon. To what extent do inspectors and companies discuss the topic of the directive and do inspectors offer advice to companies how to comply? Finally, the dependency of inspectors on companies is described. Do inspectors have the impression that they need a good relationship with the companies in order to be able to enforce the directive correctly? Do inspectors feel dependent on companies for receiving inside information?

Relationship between inspectors and companies

- ✓ The relationship in general:
 - The relationship is good.
 - The inspections are based on co-operation.
 - There is a formal atmosphere.
 - ✓ Room for discussion and advice:
 - Discussion is important.
 - There often is discussion on the content of legislation.
 - Inspectors often give advice.
 - ✓ Dependency inspectors on companies:
 - A good relationship with companies is necessary for good enforcement.
 - I am dependent on companies for obtaining information.
-

2.1.2 *Enforcement styles*

Within the literature two extreme types of enforcement styles are characterised: the legalistic versus the conciliatory style.² The legalistic style shows a very strict enforcement approach. Inspectors with a legalistic style immediately punish the regulated whenever they notice an infringement. The legislation and its details are central to the inspector and his job is to check whether regulated precisely comply with all rules. This inspector is more a policeman whereas the inspector with a conciliatory style is more considered to be a negotiator or advisor. This last inspector is more focused on the behaviour of the transgressor than on the infringement as such. The conciliating inspector will try to persuade the regulated to comply and only sees sanctions as a last resort when negotiations with the regulated failed. The enforcement styles of inspectors can be divided into four categories:

- 1) *Passive*: an extremely lenient and flexible enforcement style characterised by a low intensity of inspections, an absent sanctioning approach and a high dependency of inspectors on companies. This passive enforcement style can be observed in two variants. Either inspectors adopt a passive (retreatist) style because they are overwhelmed by the regulated and do not *dare* to undertake action against regulated that do not comply with the legislation. Or inspectors adopt a passive (lax) style because they do not *care* to undertake action.
- 2) *Persuasive*: a rather lenient enforcement style with an emphasis on explaining the law and discussing possible solutions to undo infringements with the regulated. The aim is to persuade companies to comply with the law. Sanctions are rare since inspectors offer second and even third chances to companies. The giving of advice and discussions with companies are considered to be important.
- 3) *Insistent*: a mixture between a persuasive and a legalistic approach. Inspectors will first try to persuade companies but set their own timetable – as opposed to the persuasive inspector who negotiates with the company – to inform companies when and how to undo infringements. Inspectors are not afraid to impose sanctions when companies do not respond to their attempt to negotiate. Inspections are rather intensive and the co-operation with companies is not likely to result in a dependent relationship.
- 4) *Legalistic*: a strict enforcement approach where inspectors do not give regulated second chances but punish immediately. Inspectors show an extreme focus on legislation and inspect with the primary aim to check whether companies comply with all details. Inspections are very intensive, sanctions are frequent and companies are of the impression that inspectors impose rules without listening to them.

From each of the three categories that describe the enforcement practice, the most important elements operationalise the concept ‘enforcement style’.³ All elements are derived from the questionnaires and are weighted on a scale of one to five points.⁴ The highest score ‘five’ represents a legalistic enforcement style and the lowest score ‘one’ indicates a passive enforcement style.⁵ Of these four categories especially one puts a stamp upon the character of an enforcement style: the intensity of the inspections. Therefore, the impact of this category is weighted double compared to the assessment of the safety report, sanctioning practice and relationship with companies. The intensity of the inspections is weighted by eight elements – thus forty points – whereas the other three categories are weighted by four elements – thus twenty points. The total scores for Seveso II can be 100 points and for safety data sheets 80 points since there is no such thing as an assessment; high scores represent a legalistic enforcement style and low scores a passive enforcement style.

a) Intensity of the inspections

A high inspection intensity represents a legalistic enforcement style whereas a low intensity refers to a more passive or lax enforcement style. Member States where a large number of inspectors execute special inspection projects according to a strict inspection-plan show a more legalistic inspection style than countries that hardly pay attention to the inspections. The intensity of the inspections is measured by the following eight elements:

- 1) Special inspection projects focused on the topic of the directive.
- 2) Number of inspectors.
- 3) Total number of man-days per inspection.⁶
- 4) Total time inspectors spend per company: preparations, actual inspections and aftercare.
- 5) Usage of an inspection-plan.
- 6) Usage of an inspection tool.
- 7) Percentage of inspections focused on the topic of the directive alone.
- 8) Frequency with which companies are inspected.

The existence of active enforcement in the form of specific projects or regular visits focused on the topic of the directive implies an intensive inspection style. It can be expected that the higher the number of inspectors, the more intense the inspection will be; a team of inspectors can inspect more aspects and details than one inspector alone can check. A high number of man-days per inspection and a high total workload of inspectors per company (preparation, inspection and aftercare combined) also indicate a high intensity. The usage of an inspection-plan leads to a more legalistic style since the inspector is obliged to follow this schedule and there are less opportunities for deviations. Equally, the usage of an inspection tool leaves less freedom for the inspector to improvise and this leads to a more legalistic approach during the inspection. In Member States where it is common to devote special inspections to a directive alone, there is more opportunity to pay intense attention to this topic. These countries therefore are inclined to show a more legalistic style than countries where during the inspection inspectors also have to check other legislation. A high frequency of inspections indicates a legalistic enforcement style whereas a low frequency represents a passive enforcement style. The maximum possible score per aspect is five points, leading to a possible total of forty points.

b) Intensity of the assessment

With respect to the Seveso II enforcement, a second element contributes to the inspectors' enforcement style: the assessment of the safety report. Some countries devote a considerable amount of time to the assessment of one safety report with an entire team of assessors who use a detailed assessment tool, whereas others pay much less attention to this topic. In order to measure the intensity of the assessment of the safety report, the four most important elements that indicate an assessment style are selected:

- 1) Number of assessors and the extent to which they assess the entire report.
- 2) Total number of man-days per assessment.
- 3) Usage of an assessment tool.
- 4) Number of times inspectors ask companies to rewrite their safety report.

The larger the number of assessors, the more legalistic the assessment is likely to be. However, in large teams it might be the case that all team members only check a small part of the report and therefore it has to be taken into consideration to what extent the team members only check a part of the report or the entire report. Large teams of assessors who all read the entire report and spend a high number of man-days per assessment are likely to show a more legal-

istic approach than small teams with less opportunity to thoroughly check a report. The frequent usage of an assessment tool by inspectors also indicates a legalistic style, since this will force assessors to assess according to a certain, strict format. Assessors who often ask companies to rewrite their safety report show a more legalistic approach compared to assessors who do not frequently ask for this. A country that shows the opposite values – a low number of assessors who spend little time per assessment, do not use an assessment tool and never ask companies to rewrite a report – is considered to have a more passive assessment style. The maximum possible score per aspect is five points – representing a legalistic approach – that makes the total possible score twenty points.

c) Sanctioning approach

A third element that says something about the enforcement style of a country is the sanctioning practice. Do inspectors immediately impose a sanction when they spot an infringement or do they leave the regulated some time to improve the situation? A country where inspectors immediately sanction shows a more legalistic enforcement style than a country where inspectors give companies a second or third chance to undo the infringement. Four aspects indicate the sanctioning style of inspectors:

- 1) Speed with which inspectors impose sanctions.
- 2) Extent to which inspectors consider specific circumstances such as company size, the severity of the infringement, costs to undo the infringement and the financial situation of a company.
- 3) Extent to which decisions to impose sanctions are dictated by a manual.
- 4) Percentage of companies that received a sanction for the directive.

Inspectors who immediately impose sanctions show a more legalistic attitude compared to inspectors who give companies warnings first and allow companies second or even third chances to undo an infringement. When inspectors, before imposing a sanction, first consider all sorts of external circumstances, their sanctioning approach can be called more lenient. Inspectors with a lenient enforcement style will often consider aspects such as company size, the severity of the infringement, costs to undo the infringement and the financial situation of the company. The extent to which inspectors use a manual to decide whether or not to impose sanctions also influences the enforcement style. Inspectors who strictly follow a manual show a more legalistic approach in sanctioning since there are fewer opportunities to deviate for these inspectors. Finally, the higher the percentage of companies that already received a sanction for the directive, the more legalistic the sanctioning style. With a maximum of five points per question, the total possible score can be twenty points.

d) Relationship with companies

Four elements related to the relationship with companies indicate whether the enforcement style of an inspector can be considered as legalistic or passive:

- 1) Inspectors consider a good relationship with the companies to be necessary and feel dependent on companies for receiving all information necessary for good enforcement.
- 2) Discussions on the content of a directive play an important role during the inspections.
- 3) The inspections are based on co-operation between inspectors and companies.
- 4) Inspectors often give advice during the inspections.

The first element relates to the dependency of inspectors on companies. Inspectors who are of the impression that they need a good relationship with companies in order to be able to

correctly enforce legislation – or inspectors who feel dependent on companies for receiving all information necessary to complete a check of the compliance record – show a passive enforcement style. Inspectors with a legalistic style would never consider themselves to be dependent on companies; they are the ones deciding whether or not companies comply well, with or without a good relationship with the regulated. Inspections that are based on co-operation between inspector and regulated – and where discussions on the content play an important role – are a characteristic of a conciliatory enforcement style. Inspectors who adopt a more legalistic approach will be less co-operative and do not consider discussions to be important. The same applies to the giving of advice; inspectors with a legalistic attitude will advise less often. These four questions can lead to a maximum score of twenty points.

2.1.3 *Compliance practices*

The companies' compliance practice is operationalised in three different categories:

- 1) General organisation.
- 2) Workload.
- 3) The level of compliance.

1) *General organisation*

The first necessary aspect in describing a compliance practice is its general organisation. How do the regulated ensure that they conform to the requirements within a directive? How did companies learn about the requirements they have to comply with; did they find this out themselves or were they informed by inspectors or by the industry association? Do they outsource the requirements or do they comply with the legislation by themselves? Did the company appoint a special department to arrange the compliance and did it train its personnel in order to be able to comply correctly? Are there specific tools – either set up by the company itself or by the government or perhaps the industry association – to help the company to conform to the requirements?

General organisation

- ✓ The way in which companies learned about the concrete requirements.
 - ✓ Companies comply with the legislation themselves or outsource the compliance.
 - ✓ Usage of a special department for the compliance.
 - ✓ Percentage of companies that train their personnel.
 - ✓ Usage of compliance tools.
 - ✓ Contact with others (e.g. mother company, industry association) while complying.
-

2) *Workload*

What do companies do to comply with the legislation and how much time do they spend on this? The basic elements related to the workload are the number of people that companies appointed and the amount of time they spent in total to conform to the requirements. Since the requirements in both directives differ, the description of the workload differs as well.

The workload for complying with Seveso II (chapter four) consists mainly of the writing of a safety report. How many people are responsible for the writing of this report? How long did it take a company to write its report in total? How many installations and scenarios do companies have to describe in their safety report and are they obliged to perform a 'Quantitative Risk Analysis'? What is the average length of a safety report?

The safety data sheets workload consists of the making, revising and distributing of sheets (chapter six). For how many products do companies have to compile safety data sheets? How much time with how many people do they spend on this activity? How long does it take to put one sheet together? Do companies regularly update their sheets and do they make different sheets for clients in different countries?

Workload	
<i>Seveso II</i>	<i>Safety data sheets</i>
✓ Number of people writing the safety report.	✓ Numbers of sheets companies have to make.
✓ Time for writing the report in total.	✓ Number of people making the sheets.
✓ Number of installations.	✓ Hours per week spend on making the sheets.
✓ Number of scenarios.	✓ Time per sheet.
✓ Number of scenarios per installation.	✓ Extent to which companies update their sheets.
✓ Obligatory performance of the QRA.	✓ Companies make different sheets for clients in different countries.
✓ Length of the safety report.	
✓ Future workload after handing in the report.	

3) *Level of compliance*

The level of compliance forms the last part of the description of the compliance practice. The questions asked to check the levels of compliance are: To what extent are companies of the opinion that they comply well and to what extent do inspectors agree to this? Do companies have certain problems with the directive? Is it hard to conform to the requirements? Do inspectors see differences between compliance rates of companies: are larger companies and manufacturers of chemicals seen as better compliers compared to smaller companies and traders?

Level of compliance

- ✓ Companies comply well.
- ✓ Larger companies / manufacturers are better compliers.
- ✓ Companies have problems with the compliance.

2.1.4 *Compliance costs*

The costs companies make for complying with legislation are divided into two categories: (a) costs directly imposed by the government and (b) costs companies make themselves. The costs directly imposed by the government are those costs that have to do with company visits, inspections, sanctions and possible sums of money companies have to pay for governmental tasks. The costs companies make themselves are those costs related to their own workload and the possible hardware or software that has to be purchased; in the case of this research the workload relates to the writing of the safety report and the compilation of safety data sheets. The costs are calculated in points and high scores represent high costs.⁷

a) Costs imposed by the government

Possible costs imposed upon companies by the government can be divided into two cate-

gories: inspections and sanctions. For the Seveso II directive an extra expenditure can be distinguished; costs for the assessment of the safety report.

The *inspections* can lead to three sources of costs for companies:

- 1) The total number of man-days per inspection. (2 points)
- 2) The frequency of inspections. (3 points)
- 3) Sums of money companies have to pay for the inspection. (10 points)

In Member States with a high number of man-days per inspection and a high frequency of inspections, companies have higher compliance costs compared to companies in Member States where the impact and frequency of inspections is lower. The compliance costs, in this respect, are related to time that the personnel that has to guide the inspectors can not spend on other activities. Companies that are charged for the inspections of course have higher costs for complying with a directive than companies in Member States where this is not the case. The maximum score for inspections is fifteen points. Most points are allocated to the sum of money that companies might have to pay the enforcement agencies for the inspections since this is the aspect that can lead to the highest actual costs.

Companies can have two sorts of costs related to *sanctioning*. First of all, companies have indirect costs when inspectors notice a violation; in this case the company has the costs of improving the situation. For example, companies where inspectors notice that heading 9 of their safety data sheets is compiled wrongly have the costs of adapting all their sheets to the wishes of the inspectors. Second of all, companies can have direct costs of actual fines. Thus the two indicators of costs for sanctioning within a Member State are:

- 1) Frequency with which inspectors detect violations. (2 points)
- 2) Frequency with which inspectors impose fines. (3 points)

In countries that show a high percentage of companies where violations were found (which results in adaptation costs) and fines were imposed, companies have higher compliance costs. The maximum score is five points.

The third and extra expenditure for Seveso II companies is formed by the costs imposed by the government for assessing the safety report. Two aspects related to this *assessment* can lead to costs for companies:

- 1) Number of times companies are visited during the writing of the report. (5 points)
- 2) Sums of money companies have to pay for the assessment. (10 points)

Companies that are visited often during the writing of their safety report and that have to pay for the assessment of course have higher compliance costs compared to companies where this is not the case. As for the inspections, the maximum score for the assessment is fifteen points. Again most points are allocated to the sum of money that companies might have to pay the enforcement agencies for the assessment since this is the aspect that can lead to the highest actual costs.

The maximum score for costs imposed by the government can thus be thirty-five points for Seveso II companies and twenty points for safety data sheets companies. The reason why the costs for inspections and the costs for the assessment are each graded higher than the category of sanctions is that these costs are higher in practice.

b) Costs companies make themselves

The costs made by companies themselves – related to the writing of the safety report and the compilation of safety data sheets – are all covered in the category ‘workload’. Workload is interpreted in a broad sense: it includes both the time companies spend in order to comply with a directive and the money they spend on new hardware or software. Since the workload for companies encompasses very divergent aspects for both directives, it is not possible to present common elements that are the same for both situations. Because of the different requirements within both directives, the indicators of costs (and the points allocated to them) related to the workload are described within the sections on compliance costs for Seveso II (chapter 7, section 7.3.2) and for safety data sheets (chapter 7, section 7.5.2).

2.2 How to explain differences in enforcement and compliance?

The literature on enforcement provides a number of variables that try to explain possible differences in enforcement, either between countries, agencies or inspectors. Quite some authors touch upon the topic of differences in styles, but not all of them actually identify causal variables. Most authors just mention differences in enforcement, without explicitly referring to possible variables that might lead to these differences (e.g. Haas, 1998; Harding and Swart, 1996; Hawkins, 1984; Matthews, 1993; Pridham and Cini, 1994; Wilson, 1985; Ziedentopf and Ziller 1988a/b). Of course there are authors who do provide such variables (e.g. Baldwin, 1990; Glim, 1990; Havinga, 1992; Hutter, 1989; Kagan, 1989; Koolhaas, 1990; Mayntz, 1978a). These authors categorise the variables that explain differences in enforcement styles. The categories they use are often similar. This section discusses the variables of five of these authors: Koolhaas, Glim, Hutter, Mayntz and Kagan.

Koolhaas explained differences between the enforcement styles of five enforcement agencies in the Dutch Rotterdam harbour by three categories of variables: ‘*characteristics of inspectors*’, ‘*characteristics of the organisation*’ and ‘*characteristics of the regulated*’. (Koolhaas, 1990: 98-100) The most important characteristic of inspectors for Koolhaas was their background and education. His research showed that inspectors with a police academy background show a more legalistic style compared to inspectors with a technical background. (Koolhaas, 1990: 99) The enforcement style was also influenced by the characteristics of the enforcement agency. What types of enforcement instruments does the management of an agency prefer? How long does the agency have experience with the task to enforce legislation? The final category of variables that influenced enforcement styles was the characteristics of the regulated. Koolhaas observed that the size of the regulated influences the style of an inspector. Large companies are complex and inspectors are dependent on the good will of a company to co-operate. A good relationship with companies is thus important and inspectors are careful not to disturb a good one with a larger company by sanctioning. (Koolhaas, 1990: 100) Inspectors are less dependent on smaller companies and thus more likely to adopt a legalistic enforcement style.

Glim compared the implementation of three European environmental directives and she distinguished four categories of variables that influence the implementation process (Glim, 1990: 6-12):

- 1) *Policy*: the characteristics of policy formulation, the degree of political conflict or consensus on the policy, the extent to which the policy demands change, and the level of

detail of information available in the policy.

- 2) *The relation between EC law, formal compliance and actual implementation of the policy*: the form and nature of the transposition of EU legislation into national legislation (influenced by the fit with existing national laws and the duration of EC-membership) and the enforcement possibilities (sanctioning instruments available).
- 3) *Organisational structure*: the relationships between the actors in the network organisation.
- 4) *Resources*: the availability of resources such as material ones, information, finances, personnel and the economic condition of a country.

Hutter explained differences in enforcement styles between three British environmental health enforcement agencies with three categories of variables: ‘*organisational factors*’, ‘*political factors*’ and ‘*social factors*’. (Hutter, 1989: 164-169) Hutter’s organisational factors showed a combination of Koolhaas’ characteristics of the organisation and Glim’s resources. Especially important to explain differences in style were for her the budget and personnel available for enforcement. As to the second category of political factors, Hutter showed that companies have less chance of being prosecuted for infringements in times of a conservative government. The overall influence of political factors was negligible, however, because of the low political attention to environmental health enforcement in general. Under the last category of social factors, the relationship with the regulated was important. Inspectors with a good relationship with companies were more likely to show a co-operative enforcement style.

Of the authors who identified variables explaining differences in enforcement styles, two – Mayntz and Kagan – provided a more elaborated framework.

In her book ‘*Vollzugsprobleme der Umweltpolitik*’ of 1978, Mayntz distinguished six different categories of independent variables. The six categories were divided into two parts: explanatory factors *within* the system of actors and factors *outside* the system of actors. There were four categories from within the system of actors (Mayntz, 1978a: 12-13):

- 1) Characteristics of the *enforcement agencies*. Important in this respect are the characteristics of the personnel, the organisation of the agencies, the technical resources, and the level of knowledge present.
- 2) Characteristics of the *implementation structure*. Especially of influence are the horizontal and vertical divisions of the competencies.
- 3) The relationship between *enforcement agencies* and the *government*, such as the relationship between enforcement agencies and their co-ordinating ministry(-ies).
- 4) The relationship between *enforcement agencies* and the *regulated*. Besides the regulated alone, the relationship with other parties involved, such as interest groups, should be considered as well.

The last two categories of explanatory variables came from outside the system of actors:

- 5) Characteristics of the *problem*. Why is a topic regulated?
- 6) Characteristics of the *legal instruments* used for regulation.

Kagan mentioned explicitly in his article ‘*Understanding regulatory enforcement*’ (Kagan, 1989) that it is rather complicated to explain why agencies favour one implementation style over another. It seems difficult to weight the various factors: ‘*Weighting the relative importance of these factors, however, is difficult because of the number and fluidity of variables and the adaptiveness of regulatory agencies.*’ (Kagan, 1989: 89) Kagan divided the variables he dis-

tinguished into three categories: ‘legal design factors’, ‘task environment factors’ and ‘political environment factors’. (Kagan, 1989: 113)

- 1) The *legal design factors* included variables related to the characteristics of the legislation and the legal powers of the actors involved. These determine how the law structures the ‘regulatory mission’ of the enforcement agency.
- 2) The *task environment factors* were divided into three sub-categories: the visibility of the violations, the ability and willingness of the regulated to comply, and the seriousness of the risks that need to be prevented.
- 3) In the last category of *political environment factors*, Kagan considered the influence of interest groups, and the preferences of political authorities. Amongst these preferences he distinguished catastrophes, electoral shifts and budgetary cutbacks.

2.3 Independent variables: possible explanations for differences in enforcement and compliance

The above mentioned variables found in the literature produce the following four categories of variables to explain differences in enforcement practices and styles and compliance practices and costs:

- 1) Saliency.
- 2) Legal design.
- 3) Organisational structure.
- 4) Street-level actors.

Below is a list of a number of possible variables that could explain differences in enforcement and compliance and are some hypotheses formulated with how these variables could affect enforcement and compliance.

2.3.1 *Saliency*

The saliency of a directive refers to the importance attached to the topic regulated in a directive on both European and national level. A salient issue stands high on the political agenda and that is likely to influence enforcement and compliance practices. It is expected in literature that a salient topic will receive much attention in its enforcement phase and the enforcement style will be rather legalistic. And companies may make a greater effort to conform to the requirements (e.g. Baldwin, 1990; Hutter and Manning, 1990; Kagan, 1989; Knill, 1997; Pridham and Cini, 1994).

A first indicator of saliency is the seriousness of the topic a directive regulates. In case of this research the *seriousness of the risks* the directive tries to prevent. (Kagan, 1989: 101) The higher or more serious the potential risks, the more salient the directive. The higher the potential risks regulated in a directive, the more legalistic the enforcement style will be, and the greater effort companies are likely to make to comply.

Secondly, the saliency of a directive can be measured by the amount of *attention* for the topic of a directive *on European and national level*. Are there enforcement projects for a directive? Are there conferences or other international meetings organised to discuss the topic of a directive? Did the European Union provide guidance material to help the Member States in the enforcement? The more attention on European level for a directive, the more salient this directive is considered to be. On the national level, the saliency of a directive can also be measured by looking at conferences and media attention related to the topic of a directive.

Media attention may lead to ‘moral panic’ and may lead to the enforcement style becoming legalistic: ‘Moral panic can create a climate in which extraordinary measures are called for and become acceptable, as had been seen in the use of football identity cards and calls for stiffer sentences for “football hooligans”.’ (Hutter and Manning, 1990: 108-109)

Finally, *disasters and / or scandals* influence the saliency of a directive. They are likely to influence the importance attached to the topic of a directive. According to Kagan, disasters or scandals stimulate a more legalistic enforcement style. ‘*In the aftermath of a televised hotel fire, a death-dealing tunnel collapse, or a highly-visible oil spill, political leaders often respond by holding hearings, replacing agency heads, and calling for new, more rigorously enforced regulations. A recent catastrophe is a reasonably good predictor of a more zealous, legalistic enforcement style, at least for a while.*’ (Kagan, 1989: 108-109)

Saliency

- ✓ Seriousness of the risks to be prevented.
 - ✓ (Media) attention for the topic of a directive on European and national level.
 - ✓ Disasters and / or scandals.
-

2.3.2 Legal design

According to Kagan the legal design is of major importance in explaining variations in enforcement: ‘*The laws they [inspectors] enforce provide the blueprint that sets forth their mission and define the tools they can use.*’ (Kagan, 1994: 390) The legislation that enforcement agencies and inspectors have to enforce dictates what Kagan calls the ‘regulatory mission’. Several factors related to the legal design influence the way in which inspectors enforce and companies comply. The following four dimensions are distinguished: (1) the nature of the European directive, (2) national transposition, (3) national enforcement and compliance instruments and (4) national sanctioning instruments.

1) The nature of a European directive

The first element of a directive is whether it is a *minimum* or a *maximum directive*. A minimum directive allows Member States to add their own national requirements when transposing it into national legislation. This factor is related to a factor under the category ‘transposition’: the extent to which Member States make use of their option to add requirements. A minimum directive will allow for more differences in enforcement and compliance practices between Member States. Maximum directives, on the contrary, leave fewer possibilities for deviations in transposition and thus in enforcement and compliance practices between the countries.

A second element related to the nature of the directive is the *number of policy areas* it touches upon. The more policy areas covered in one directive, the harder its enforcement is likely to be: ‘*We also have examples in recent years of Community environmental legislation which are not confined to particular sectors such as water or waste, but across conventional administrative boundaries and areas of responsibility (...). This type of ‘horizontal’ directive (...) can raise quite distinct challenges and difficulties for both Member States and the Community institutions when it comes to ensuring full implementation.*’ (Somsen, 1996: 12) Combining more policy areas in one directive will lead to differences in enforcement practices between countries, as Member States have an option of what specific policy area they highlight. This might lead to different enforcement agencies being involved in different coun-

tries and therefore different enforcement practices.

A third element relates to the *level of detail* in a directive. Are the requirements very specific and detailed or is it a general framework directive? (e.g. Aalders and Wiltshagen, 1994; Baldwin, 1990; De Gier, 1991) This variable relates to what Baldwin calls specificity or precision of rules: *'Thus, the regulator who wishes to ensure the availability of emergency fire exists may state that 'reasonable provision for escape' should be made or may say that 'a fire door measuring 6€ ¥ 4€ must be made available within 100€ of each employee.'*' (Baldwin, 1990: 321) Specific, precise and detailed directives will more easily dictate the enforcement. A generally worded directive will lead to more variation between countries, regions, agencies, or inspectors in how they enforce, or between companies in how they comply. In the above example, different countries might have different ideas on what a 'reasonable provision for escape' is. Directives that specify precisely and in detail with what requirements the regulated have to comply make it easier for the regulators to adopt a legalistic enforcement style.

Finally, the *intelligibility* or *clarity* of the directive is important (e.g. Baldwin, 1990; Genn, 1993; Havinga, 1992). Do enforcement agencies and individual inspectors understand what the directive implies and do they clearly know what requirements they have to enforce? Besides, do companies have a good picture of the obligations they have to comply with? A directive that is not really intelligible for both regulators and regulated will easily lead to confusion about what to enforce or comply with. If the requirements are not understandable, differences are more likely to occur in enforcement and compliance practices. It makes it harder for inspectors to adopt a legalistic style, since they are not fully aware of the scope of the legislation. Unclear legislation will force regulator and regulated to co-operate in order to agree on the specific requirements, whereas clear rules provide a strong legal basis for inspectors to revert to. Clear directives are easier to enforce for inspectors: *'(...) some directives prescribe explicit and precise goals that must be achieved in a given sector which in theory are at least more readily susceptible to monitoring and enforcement.'* (Somsen, 1996: 11)

Nature of a directive

- ✓ Minimum or maximum directive.
 - ✓ Number of policy areas touched upon.
 - ✓ Level of detail.
 - ✓ Clarity of the obligations.
-

2) *National transposition*

The variables related to the transposition of a directive into national legislation can be divided into three groups: legislation, gold plating and the transposition process.

a) *Legislation*

Enforcement and compliance practices may be influenced by already *existing national legislation* to regulate the topic of a directive. Absence of national legislation may have two consequences. The first one is that transposition is rather easy and smooth. There are no problems trying to adapt the already existing legislation to the EU directive. Another – opposite – consequence might be that the country has no experience in this policy area and therefore will have problems learning how to transpose and enforce this new subject. If a country already had its own national policy, the nature and content of the former legislation become relevant. A 'misfit' (Börzel, 2000) or 'mismatch' (Knill, 1997) between the national policy and

the European directive is likely to lead to problems with the transposition and / or enforcement of a directive. For example, problems are expected when a Member State with a tradition of general and broad legislation in a certain policy area needs to implement a European directive with very detailed and specific requirements. In all cases, it is easier to transpose a directive into new national legislation: *'To apply a directive in a new law is much easier than to adapt existing laws to the directive.'* (Glim, 1990: 35) The use of already existing legislation is likely to delay transposition.

Furthermore the *type of measures* by which a directive is transposed can influence enforcement (e.g. De Gier, 1991; Siedentopf and Ziller, 1988a). Countries have different types of legislation they can use: so-called 'primary' and 'secondary' legislation. Primary legislation consists of 'laws' or 'acts' for which parliamentary approval is needed. Secondary legislation is legislation, such as 'regulations', 'ordinances' or 'decrees', based upon a higher type of law or act. These do not need parliamentary approval and can be approved by individual ministers. In addition countries can use a third lower form of alternative instruments, such as 'policy rules' or 'codes of practice'. Whether a directive will be transposed by primary or secondary legislation or by alternative instruments can influence all further aspects of enforcement. Laws tend to be more general than lower types of legislation such as regulations or policy rules. The use of a general law without further specifications would make enforcement and compliance difficult because of a lack of clear guidance. Regulations or alternative instruments tend to provide more detailed information on how to enforce or comply.

Another relevant element of legislation is its *focus*. Does the legislation only regulate the topic of the directive or are other issues regulated as well? Legislation exclusively focused on one topic makes this more visible – and therefore more likely to be enforced – than a directive that is transposed into national legislation together with many other topics. Another factor related to the type of legislation regards the layers of transposition: is national legislation sufficient or do sub-national governments need to transpose certain elements as well? Transposition into legislation of different governmental levels is likely to make enforcement and compliance more complicated.

The *level of detail* of the legislation used for transposition might influence enforcement and compliance practices as well. To what extent is the national legislation more or less detailed than the European directive? A Member State that transposed a directive into well-worded, detailed national legislation might show a different enforcement style than a Member State that transposed it into less clear and detailed national legislation. Besides, the *policy areas* touched upon when transposing a directive are also expected to influence enforcement and compliance. A directive that is transposed into environmental legislation in one country and in occupational safety and health legislation in another one may be differently enforced in both countries.

A final element related to the legislation is the question whether the directive was *transposed on time* and whether all elements within the directive are actually transposed. Late transposition will influence enforcement and compliance practices: *'Many of the delays and failures over formal implementation (...) also mean that there has not yet been any practical implementation.'* (Haigh, 1986: 93)

Legislation used for the transposition

- ✓ Already existing national legislation: fit ↔ misfit.
 - ✓ Type of measures:
 - primary ↔ secondary ↔ alternative instruments
 - focus on the topic of the directive exclusively
 - national ↔ lower level
 - ✓ Level of detail of the national legislation.
 - ✓ Policy areas of the legislation used.
 - ✓ Transposition completed; transposition on time.
-

b) Gold plating

The *adding of extra requirements* by a Member State – referred to as ‘gold plating’ by Lugt (Lugt, 1999: 132) – will influence the enforcement and compliance practice as well. A Member State that added extra requirements in transposition may show a different enforcement because it may consider the issue relatively more important. Gold plating might increase compliance costs for companies.

Gold plating

- ✓ Extent to which Member States added extra requirements during the transposition.
-

c) Transposition process

In selecting the actors involved in the transposition, a country may influence enforcement. The *number of actors* might be important. (e.g. Siedentopf and Ziller, 1988a) Transposition by one actor might be easier than transposition that includes more. More actors increase the complexity of discussion, and the likelihood that problems arise. Especially involvement of sub-national governments in the transposition might increase the complexity. Involvement of only one actor will probably lead to greater clarity for enforcement agencies.

The *policy area* for which the transposing actor is responsible can determine the content of the transposed texts. A directive at the interface of environmental and industrial policy that is transposed solely by a ministry of industry may lead to other outcomes than when it is transposed by the environmental ministry.

Whether other actors, notably *the regulated*, are involved, might be of influence on enforcement as well. The more they have been involved in transposition, the greater the chance of agreement between regulators and regulated (e.g. Aalders and Wilthagen, 1994; Siedentopf and Ziller, 1988a). A country where the regulated were involved in transposition is more likely to experience a peaceful enforcement and better compliance by the regulated. Siedentopf and Ziller give a clear example: ‘*An example in the Dutch report shows that the governmental interest in avoiding difficulties in the preparatory phase is also determined by the fact that an intensive/limited participation of interested parties affects future implementation. In the case of Directive 78/170/EEC (heat generators), the Federation of Employers in the Metal Industry was insufficiently heard during the preparation. The effect was that during the implementation stage it started such an outcry that the implementation proposal was changed.*’ (Siedentopf and Ziller, 1988a: 42)

Transposition process

- ✓ Number of transposing actors.
 - ✓ Policy areas represented by transposing actors.
 - ✓ The involvement of the regulated.
-

3) National enforcement and compliance instruments

The *existence of enforcement instruments* for inspectors can influence the enforcement practice, just like the existence of compliance instruments can influence the compliance by regulated (e.g. Baldwin, 1990; Genn, 1993; Koolhaas, 1990; Matthews, 1993). Clear and detailed instruments – such as checklists, guidelines, handbooks or computer programmes – will make the execution of inspections and the compliance of companies easier. Because EU directives are always a compromise between different Member States – and therefore rather vague – enforcement instruments are needed for inspectors to be able to execute the enforcement in an appropriate manner.

The *form of the instruments* available is important; especially their level of detail and intelligibility (e.g. Baldwin, 1990; Van Waarden, 1995). Very detailed instruments with extra requirements will likely provide a different enforcement practice compared to vague and unclear instruments or no instruments at all. In recent years, the introduction of ICT instruments such as computer programmes has especially influenced the administrative discretion of street-level bureaucrats. According to Bovens and Zouridis the ‘street-level’ bureaucrats changed into ‘system level’ bureaucrats due to the introduction of computer programmes: ‘Almost all processing of information is done electronically and there is very little administrative discretion in the handling of individual cases. Decision-making is highly structured through case management and expert systems. Instead of street level bureaucracies, they have become system level bureaucracies. System analysts and software designers are the key actors in these executive agencies. They translate the legal rules into algorithms and decision trees.’ (Bovens and Zouridis, 2002: 1) They thus claim that the use of computer programmes limits the discretionary powers of inspectors. The need to use detailed and computerised enforcement tools would oblige inspectors to strictly follow the legal rules and there would be less room for deviations. Compulsory computerised enforcement tools would, in this respect, make the enforcement style more legalistic: ‘ICT makes it possible to perfect the legality of the execution in the extreme. Such detailed structuring is possible that even in the assessment of individual cases, as it were, no derogation from the rules can be made.’ (Bovens and Zouridis, 2002: 17)

Relevant finally is the *status of the instruments*. Are inspectors and companies obliged to use the instruments or not? (e.g. Matthews, 1993) Countries where all inspectors use the same guidelines will show a more uniform enforcement practice than countries where the guidelines can voluntarily be used.

Generally speaking, clear and compulsory enforcement instruments will make the enforcement style more legalistic. Equally, clear and compulsory instruments on how to comply improve the knowledge of the regulated about the topic of the directive and may lead to better compliance.

Enforcement and compliance instruments

- ✓ Number of enforcement and compliance instruments.
 - ✓ Level of detail of the instruments.
 - ✓ Status of the instruments.
-

4) *National sanctioning instruments*

The *availability and form of sanctioning instruments* – e.g. oral or written advice, warrants, and prosecutions – might influence the enforcement style (e.g. Brickman et al., 1985; Glim, 1990; Harryvan, 1990; Matthews, 1993). Absence of appropriate sanctioning tools can negatively influence the enforcement practice. It will make the enforcement tasks of inspectors more difficult and impossible to adopt a legalistic style. The types of instruments available might also influence enforcement. A Member State that allows for prosecutions is likely to show a more legalistic enforcement style compared to a Member State that established many different types of advisory sanctioning instruments.

Sanctioning instruments

✓ Availability and form of appropriate sanctioning instruments.

2.3.3 *Organisational structure*

The organisational structure refers to the characteristics of the agencies that enforce a directive and the interaction between the agencies or, as it is called, the enforcement system in which the agencies operate (e.g. Havinga, 1992; Hutter, 1989; Koolhaas, 1990; Mayntz, 1978a).

1) *Individual enforcement agencies*

In total there are six characteristics of the agencies that might influence enforcement and compliance. The first one is the *size* of an agency (e.g. Glim, 1990; Hawkins, 1984; Hutter, 1989; Kagan, 1989; Mayntz, 1978a). According to Hawkins the number of inspectors will influence the style adopted within an agency. He argues that for a legalistic style, an agency needs many inspectors. A legalistic attitude – amongst others reflected by a high inspection intensity and easy sanctioning – costs time and can only be achieved when there are many inspectors. Especially sanctioning costs time and thus an agency needs many inspectors in order to be able to deal with all infringements that are found.

The second relevant characteristic is the *tradition* of an agency in enforcing legislation. Agencies with a long tradition of legislative enforcement might show a different style compared to agencies that only recently have enforcement as one of their tasks. Koolhaas compared five Dutch enforcement agencies and found that agencies that only recently got enforcement tasks adopt a more legalistic style. They still need to prove themselves and warrants make a more visible ‘output’ that shows active enforcement than negotiations. (Koolhaas, 1990: 99)

The third element is the *sort* of actor, especially its relation to central government (e.g. Brickman et al., 1985; Knill and Lenschow, 1998; Torenvlied, 1996). To what extent is the agency linked to the central government? Is it a governmental actor, connected to government or a private agency? Mayntz found that specialised enforcement agencies were more legalistic compared to governmental actors in a study on the enforcement of German air pollution control. (Mayntz, 1978b)

The fourth characteristic of the enforcement agency is the *number of regional offices* an agency has. This variable might explain differences in style within countries. Agencies that have many regional offices and which work independently may show a greater variety of enforcement practices. This is closely linked to a fifth element: the *internal centralisation* (e.g. Aalders and Wilthagen, 1994; Mayntz, 1978a; Siedentopf and Ziller, 1988a). Stronger internal centralisation, measured as the amount of contact between the head office and regional

offices, means less discretion for the regional offices and greater uniformity of enforcement practices. What is more, strong internal centralisation may lead to a legalistic style because of the need to use centralised standards and procedures.

The last characteristic refers to different forms of specialisation. Firstly, is an agency specialised by *territory* (e.g. sub-national governments) or by *function* (e.g. labour or environmental inspectorate)? Secondly, do inspectors focus on a *specific part of the legislation* within all companies or are they responsible for a *number of companies* and do they have to enforce all legislation? Inspectors working for an agency specialised by territory and / or responsible for all legislation per company tend to be more general as compared to inspectors working for a functionally specialised agency and / or who have functionally specialised tasks. The specialists are more likely to adopt a legalistic approach. The last form of specialisation refers to their *task specialisation* regarding enforcement. Those with enforcement as a core job are likely to show a different enforcement style than agencies that have a different core function and enforce legislation only ‘on the side’.

Individual enforcement agencies

- ✓ Size of the agency.
 - ✓ Tradition in enforcing legislation.
 - ✓ Sort of actor.
 - ✓ Number of regional offices.
 - ✓ Internal centralisation.
 - ✓ Forms of specialisation:
 - by region or by function
 - by company or by rule
 - by enforcement or by other tasks
-

2) Enforcement system

If there is more than one agency responsible, they together form an enforcement system. This system refers to, as Mayntz puts it, ‘a network of institutional actors (or organizations) who jointly deal with a specific task.’ (Mayntz, 1978b: 201) Four elements of it might explain differences in enforcement. First of all the *number of enforcement agencies* (e.g. Matthews, 1993; Vos et al., 1993). A plurality of agencies means that there can be different opinions on how to enforce. This might produce difficulties and confusion. Necessary co-operation between multiple agencies with a different background and working culture might negatively affect enforcement. Vos et al. showed in their research on the enforcement of Dutch environmental policy that problematic communication between multiple enforcers led to a lack of adequate performance. (Vos et al., 1993: 41) Enforcement by one agency alone is less likely to cause such problems. Besides the number of agencies involved, the *policy areas* they represent might influence the enforcement style as well. Legislation that covers multiple policy areas can only be enforced to the full and strictly when all policy areas have enforcement agencies.

If there are a number of agencies involved and they represent different policy areas the *division of responsibilities* between them may become important. Its absence can produce problems in enforcement. As Hutter states: ‘The division of legislative responsibilities between a

number of regulatory agencies not only complicates officers' understanding of the law but can lead to inter-agency disputes about the allocation of duties.' (Hutter, 1988: 59) In the worst case scenario an unclear division of responsibilities results in a situation in which none of the agencies considers itself to be responsible and no enforcement takes place at all.

The last factor related to the enforcement system concerns the *co-operation* between agencies. Difficulties in co-operation might negatively influence enforcement; it might lead to bad or no enforcement at all. Good co-operation, on the contrary, might increase the intensity of enforcement. *Competition* between the agencies might have contradictory effects. It might lead to a 'race to the bottom' – in which case none of the agencies actually enforces – or to a 'race to the top' – in which case competition leads to intensive enforcement.

Enforcement system

- ✓ Number of enforcement agencies.
 - ✓ Policy areas represented.
 - ✓ Division of responsibilities between the agencies.
 - ✓ Is there frequent co-operation? Or frequent competition?
-

2.3.4 *Street-level actors*

Two types of street-level actors are involved in enforcement and compliance: the regulators (inspectors) and the regulated (chemical companies). For both groups three elements might be of influence: (1) their characteristics, (2) their opinion of each other and (3) their opinion of the legislation.

1) *The inspectors*

a) *Characteristics of the inspectors*⁸

The first two characteristics related to the inspectors are their *age* and *experience*. Hawkins concluded in his research on environmental inspectors in the United Kingdom that younger inspectors show a more legalistic approach than older and more experienced ones: '*While newer recruits prefer to pin their faith on an 'objective', 'scientific' conception of pollution standards which should – in theory at least – be rigorously applied, the older men, with relatively few exceptions, prefer to 'be reasonable' and 'to understand the polluter's problems'.*' (Hawkins, 1984: 40)

A third characteristic is the *education* of an inspector. Has he received training on the specific topic of a directive? An inspector who has is more likely to adopt a legalistic style than an inspector who is not trained. Related to education is the background and specialisation of the inspector. A specialist inspector will enforce differently than an inspector with a general background. A specialist knows more details and can therefore enforce a topic more thoroughly and strictly than an inspector who does not.

A fourth factor is the *workload* of the inspector (e.g. Hawkins, 1984; Kagan, 1989; Knegt, 1986). A high workload influences enforcement. With more pressure and less time, an inspector will focus on co-operating with the regulated instead of sanctioning them. A legalistic approach takes time; in order to be able to sanction companies, inspectors need enough time to carry out all time-consuming activities related to sanctioning. According to Hutter (Hutter, 1989) the number of companies one inspector is responsible for is also very important. The more companies one inspector has to check, the more co-operative he will try to be. This will take less time per company and therefore more companies can be inspected.

The *discretion* of inspectors forms the fifth variable that might influence their enforcement style (e.g. Harryvan, 1990; Havinga, 1992; Knill and Lenschow, 1998). The discretion of inspectors is of course also a characteristic of an agency. Does the agency provide clear guidelines – such as an inspection-plan – explaining what and how inspectors should enforce? Does the agency check the activities of its inspectors? Lack of clear guidance and control within an agency will allow for greater discretion and more differences between inspectors. A high level of control – and thus a low amount of discretion – will lead to a more legalistic style. When checked by their organisation, inspectors have a tendency to more easily impose sanctions in order to be able to show ‘output’. A more co-operative style does not supply for enough output. According to Hawkins, environmental inspectors in the United Kingdom ‘cover’ themselves in order to avoid criticism by their superiors: ‘*Covering means “doing it by the book”- erring on the side of caution and producing concrete evidence of activity when making discretionary decisions whose outcome will be known to the officer’s supervisor or any senior staff.*’ (Hawkins, 1984: 65)

The last characteristic of inspectors is the opinion they have of their own role; their *self-image* (e.g. Koolhaas, 1990; Havinga, 1992; Van Waarden, 1995). Inspectors may have different ideas of their work and how they are supposed to act. Some like to think of themselves as problem-solvers, others as advisors and yet others as policemen. Unga and Baas (in: Knegt, 1986: 24) distinguished four possible self-images of inspectors: ‘law interpreter’, the inspector follows the law and the rules; ‘law maker’, the inspector trusts his or her own judgement; ‘adjudicator’, a judgement is based on interests and circumstances; ‘administrator’, the inspector emphasises technical aspects and efficient settlements. It is likely that an inspector who sees himself as a policeman will more easily adopt a sanctioning approach than an inspector who considers himself an advisor.

Characteristics of the inspectors

- ✓ Age.
 - ✓ Experience.
 - ✓ Education.
 - ✓ Workload.
 - ✓ Discretion.
 - ✓ Self-image.
-

b) Inspectors’ opinion of the regulated

The *opinion of inspectors of the regulated* – especially of the compliance level – might influence their enforcement (e.g. Harryvan, 1990; Havinga, 1992; Hawkins, 1984; Kagan, 1989). Companies that are known to be bad compliers may more easily receive sanctions. An infringement of a company with an otherwise good reputation may be seen as an accident; it will more easily be given the benefit of the doubt. Inspectors tend to divide the regulated into a number of categories. This categorisation allows inspectors to create an image of a company based on a small amount of information. Baldwin (Baldwin, 1990: 324) distinguished four categories. The first is the group of well-intentioned and well-informed companies. Mostly these are multinationals with their own specialists and experts. With these companies, co-operation is likely and persuasion is hardly needed; it is a matter of a professional talking to a professional. The second group is the well-intentioned but ill-informed. These are often smaller companies that want to do well. The strategy needed in this case is a combination of

co-operation, advice and education. The third group is the ill-intentioned and ill-informed. When checking compliance of these, mostly smaller, companies, inspectors more easily use legal instruments and adopt a legalistic approach. The last group of companies, the ill-intentioned but well-informed, is seen as problematic and negotiations are tougher and prosecutions needed more often.

The inspectors' opinion of the regulated is measured by their opinion of the compliance rate of companies and whether they think that companies deliberately try to evade the rules.

Inspectors' opinion of the regulated

- ✓ Companies comply well.
 - ✓ Companies try to evade the rules.
-

c) Inspectors' opinion of the legislation

It is likely that a positive *opinion of inspectors of the legislation* stimulates enforcement to actually take place and possibly a more legalistic enforcement style (e.g. Genn, 1993; Kagan, 1989; Siedentopf and Ziller, 1988a). If they consider the legislation important inspectors will put more time into enforcement; it will increase their willingness to enforce. A negative opinion is likely to result in disinterest and no or hardly any enforcement, i.e. a passive enforcement style.

To what extent do inspectors consider the demands imposed by the legislation to be clear, reasonable, detailed and realistic? As stated, a positive opinion is likely to result into more and better enforcement. To what extent do inspectors consider the demands to be easy to enforce? Are infringements easy to identify for inspectors (e.g. Hutter, 1989; Peacock et al., 1984)? Those that are easy to locate are easy to sanction. Therefore, directives that allow for visible and easy-to-spot infringements are more likely to lead to legalistic enforcement. Kagan stated that in those cases where infringements are less visible, a flexible enforcement style is risky. *'When violations are less visible to complainants (as in the case of many kinds of air or groundwater pollution) or visible only to vulnerable complainants (as in the case of nursing homes), the agency faces a more difficult task environment, making a flexible style a bit riskier.'* (Kagan, 1989: 102)

Inspectors' opinion of the legislation

- ✓ The demands are clear.
 - ✓ The demands are reasonable.
 - ✓ The demands are too detailed.
 - ✓ The demands are realistic.
 - ✓ The demands are easy to enforce.
 - ✓ Infringements are easy to detect.
-

2) The regulated

a) Characteristics of the chemical companies

A first relevant factor related to the regulated is the total *size of the group* of companies that have to comply with a directive. The smaller the group that needs to be regulated, the more visible the regulated and thus the greater the chance for each company to get attention by inspectors. If the group is large, it becomes impossible to inspect all companies. Siedentopf

and Ziller showed that Directive 78/660/EEC on company accounts was insufficiently implemented in Ireland, Luxembourg and the UK because of the large number of companies to be controlled. (Siedentopf and Ziller, 1988a: 62) In such a case a legalistic style is less likely.

A second factor of influence related to the regulated is the *size of the companies* that need to be visited (e.g. Aalders and Wilthagen, 1997; Genn, 1993; Koolhaas, 1990). Larger companies have their own experts; they also have their reputation to think of. The relationship between inspectors and such companies is more based on equality. This facilitates a co-operative enforcement style. With smaller companies, however, inspectors are less dependent on the company, which makes it easier to adopt a legalistic style.

A last factor related to the regulated is the *territorial concentration* of chemical companies. A concentration of many chemical companies may experience a different enforcement than areas with only few scattered chemical companies.

Characteristics of the regulated

- ✓ Group-size.
 - ✓ Company-size.
 - ✓ Territorial concentration.
-

b) Companies' opinion of the inspectors

While inspectors' opinion of the regulated might influence their enforcement practice, the *opinion of companies of the inspectors* might influence their compliance behaviour. A negative opinion of companies of the inspectors and their enforcement style might reduce their willingness to comply with a directive, while a positive opinion of the inspectors might stimulate them to comply closely.

Companies' opinion of the inspectors

- ✓ Inspectors are competent enough to enforce the legislation.
 - ✓ Inspectors impose rules without listening to us.
 - ✓ Our inspectors are stricter than inspectors in other countries are.
 - ✓ We have no problems with the enforcement style of inspectors.
-

c) Companies' opinion of the legislation

Finally, the *opinion of companies of the legislation* might influence their compliance practice as well (e.g. Genn, 1993; Kagan, 1989; Siedentopf and Ziller, 1988a). A positive opinion of the legislation may enhance the willingness to comply. A negative opinion is likely to produce disinterest and no or hardly any compliance. If companies feel that the demands imposed by the legislation do not add to their own standards, they will be less enthusiastic compliers.

A study on compliance with health and safety regulations by British companies showed that it often is hard for companies to understand what the legislative demands entail. As a medium-sized factory manager responded: *'I try to keep abreast of legislation, but it's not very easy. When this labelling thing came out we were issued with copies from the society and I ended up with booklets that were inches thick and it took me ages to comprehend what all the legislation was about and to know where we stood. I suspect that we are probably breaking the law even now, but I have had to adopt a simplified view to it. The legislation is such that*

you've got to be able to cope with it. A lot of these booklets were supposed to be explanatory booklets, but it is still heavy-going.' (Genn, 1993: 228)

Companies' opinion of the legislation

- ✓ The demands are clear.
- ✓ The demands are reasonable.
- ✓ The demands are too detailed.
- ✓ The demands are realistic.
- ✓ The demands are easy to comply with.
- ✓ The demands do not add to our company standards.

The variables presented in this chapter lead to the following theoretical framework as presented in figure 2.1 on the next page. The part II describes in chapters three to six the Seveso II and safety data sheets enforcement and compliance practices. Part II concludes with chapter seven that compares enforcement and compliance in terms of enforcement styles and compliance costs. Part III in chapters eight to eleven provides explanations for differences based on the above-presented division into 'saliency', 'legal design', 'organisational structure' and 'street-level actors'. Chapter twelve concludes part III and summarises the main explanatory variables.

Figure 2.1 The theoretical framework.

DEPENDENT VARIABLES

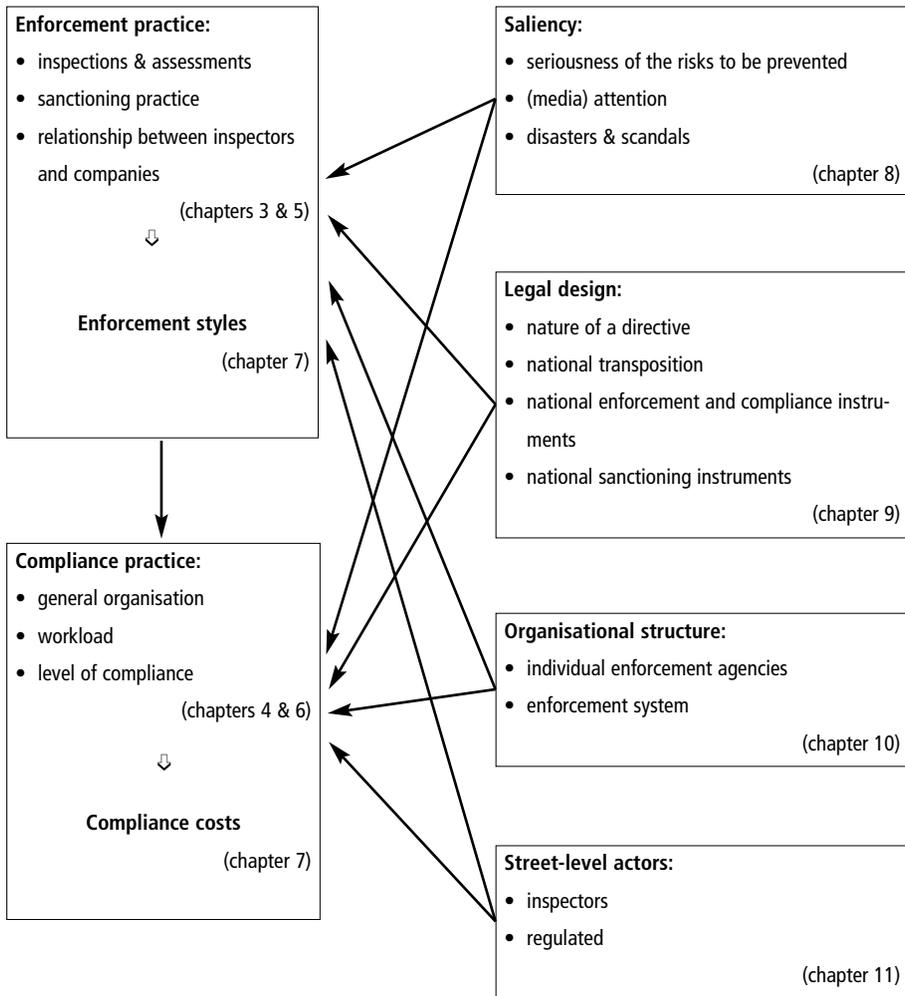
Part II, research questions 1 & 2:

- 1) Differences in enforcement?
- 2) Differences in compliance?

INDEPENDENT VARIABLES

Part III, research question 3:

- 3) How can differences be explained?



Notes

- 1 This overview mentions at least (apart from country-specific features) the following elements:
 - ✓ The number and sort of enforcement agencies that are involved.
 - ✓ The number of inspectors appointed to enforce the directive.
 - ✓ The amount of time these inspectors on average spend on the enforcement.
 - ✓ The amount of contact or co-operation between the agencies (in case more agencies are involved).
- 2 For a description of the literature on enforcement styles see chapter 1, section 1.3.
- 3 For Seveso II this means four categories since there is the extra task of safety report assessments.
- 4 The points are allocated to the Member States based on the tables comparing the enforcement and compliance practices of the four countries in the comparing sections of chapters 3 to 6. For most elements the score is based on percentages: 0-20% is 1 point, 21-40% is 2 points, 41-60% is 3 points, 61-80% is 4 points and 81-100% is 5 points. This can be explicated by the example of the element 'sanctions are decided upon according to a manual'. Table 3.24 in chapter 3 on the Seveso II sanctioning practices shows that 32% of the Dutch inspectors decides on sanctions according to a manual. In Germany this is 43%, in Great Britain 46% and in Spain 17%. The points allocated to the countries in chapter 7 (table 7.3) are thus 2 for the Netherlands, 3 for Germany and Great Britain and 1 for Spain. In case no percentages are available (e.g. 'number of inspectors') there is no objective criterion. In these cases the allocation of the points is based on a comparison between the countries and between the directives.
- 5 In case no information is available, the country received a 'neutral' score: the average of the three other Member States.
- 6 Number of inspectors per inspection ÷ average length inspection.
- 7 Since there is no absolute number to compare the costs to, the costs are compared between the countries. In this case, the definition 'high costs' does not imply a certain amount of money. It merely states that costs in one country are 'higher' than costs in another country are. The reason for presenting the compliance costs in points is the low number of respondents that mentioned their costs in money. It seems that companies do not have a clear picture of what money they spend on what activities. Companies do not keep track of their compliance costs per piece of legislation. Since the actual costs for complying with the two directives mentioned by the respondents are very diverse, the low number of respondents makes it hard to give a representative picture of compliance costs for companies. In case actual costs in money are mentioned by at least a few respondents they are presented in order to give a general idea of the height of the costs.
- 8 Two elements described under the characteristics of inspectors (workload and discretion) could also have been placed under the 'organisational structure'. The reason for placing these two elements – that are not actually 'personal' characteristics of inspectors – here, is that they strongly relate to the activities of the street-level inspectors.

Part II

Enforcement and Compliance in Practice

Part II focuses on the first two research questions on possible differences in enforcement and compliance.

First, the descriptions of the Seveso II directive are provided. Chapter 3 describes the Seveso II enforcement practice. Per country, the enforcement practice is divided into five categories: introduction, assessment of the safety report, inspections, sanctioning practice and the relationship between inspectors and companies. Chapter 4 focuses on how companies comply with their Seveso II obligations. Three categories in specific are central: general organisation of the compliance, workload and level of compliance.

Second, the safety data sheets directive is described. Chapter 5 deals with the safety data sheets enforcement practice. The enforcement practices in the four Member States are divided into four categories: introduction, inspections, sanctioning practice and the relationship between inspectors and companies. Chapter 6 focuses on the safety data sheets compliance practice and describes how companies comply with their obligation to produce these sheets. The descriptions are divided into three categories: general organisation of the compliance, workload and level of compliance.

All four chapters conclude with a section on the main similarities and differences between the four Member States. In all cases, the descriptions of the enforcement and compliance practices are derived from interviews with and questionnaires completed by both inspectors and chemical companies.

Part II concludes, in chapter 7, with a comparison of the two directives and a description of the enforcement styles of inspectors and the compliance costs of companies.

Chapter 3

The Seveso II enforcement practice

3.1 Introduction

The obligations of inspectors in the Seveso II enforcement practice are the same in all Member States and described in the European directive. This research only focuses on the safety reports requirements (Article 9) and inspections (Article 18). Other obligations that national governments have – such as developing land-use planning legislation and making external emergency plans – are therefore not included in this description of the Seveso II enforcement. The Member States have to set up or appoint a ‘competent authority’ (Article 16) that is responsible for all duties laid down in the directive. This competent authority is thus responsible for executing the assessment of the safety report and the inspections. The Member States have to make sure that the upper tier establishments produce a safety report that at least contains the data and information as listed in Annex II of the directive. The competent authority has to assess the safety report and send its conclusions on the acceptability of the safety report to the operator. This has to be done ‘*within a reasonable period of time*’ (Article 9, 4); Member States can decide what time period is considered to be reasonable. Besides, the competent authority is obliged to organise a system of inspections. Inspectors especially have to check whether the operator can demonstrate that he has taken all appropriate measures to prevent and limit the consequences of major accidents. The inspector has to check whether the information in the safety report coincides with the practice at the site. Article 18 of the directive states that the competent authority has to inspect all upper tier establishments at least every twelve months.

3.2 The Netherlands¹

3.2.1 Introduction

In the Netherlands, the Seveso II directive is enforced by three enforcement agencies together: the ‘Environmental Authority’ (‘Bevoegd Gezag Wet milieubeheer’), the ‘Labour Inspectorate’ (‘Arbeidsinspectie’) and the ‘Fire Brigade’ (‘Brandweer’).² The Dutch Seveso II enforcement agencies thus represent the policy areas ‘environment’, ‘occupational safety and health’ and ‘emergency planning’.

Of these three Dutch agencies, the environmental authority is appointed as the ‘competent authority’ for the Seveso II enforcement (Article 16 of the Seveso II Directive). Either a province or a municipality – via their environmental departments – can execute the task of ‘Environmental Authority’ in the Netherlands. In total there are 12 provinces and 496 municipalities. Whether the actual enforcement is carried out by a province or by a municipality depends on the type of Seveso II establishment. The actor normally responsible for the granting of environmental licenses to a company will be the competent authority for the enforcement of the Seveso II directive in this company. In general, it can be said that larger and municipality-border exceeding companies are placed under authority of provinces and smaller companies under authority of municipalities. In practice this means that in the Netherlands the provinces are the competent authority for most (80%) upper tier establishments, whereas the municipalities are the competent authority for most (also about 80%) lower tier com-

panies.³ In this research provinces are the most important type of environmental authority since they usually are responsible for the upper tier establishments.

The number of environmental inspectors working on the Seveso II enforcement differs per province and municipality. In all 12 provinces at least one Seveso establishment is located. Of the 496 municipalities, about 70 house a Seveso establishment. Because all environmental authorities are organised so differently – and are responsible for different numbers of Seveso establishments – it is hard to estimate a total number of environmental inspectors working on Seveso II in the Netherlands. It is estimated that in each of the 12 provinces one to five people are working on this subject (approximately 35-45 people in total).

In the province 'Flevoland' there are three Seveso establishments. One upper tier company for which the province is responsible and two lower tier companies for which two municipalities are responsible. In total, three persons are working on this topic in 'Flevoland'.

The province 'Zeeland' is responsible for 15 upper tier companies and has five persons working on this.

In 'Zeeland' there are 17 municipalities of which only five are responsible for one or more lower tier establishments.

In the 70 municipalities that house a Seveso establishment about one to three people are responsible for this subject (approximately 80-90 people in total). Besides, the few environmental agencies also have some people working on this topic (approximately 20). In total, it is estimated that there are approximately 135 to 155 environmental inspectors responsible for Seveso II in the Netherlands.⁴ Only a small percentage of the environmental inspectors who are responsible for Seveso II are working on this subject exclusively. Most of them have other obligations besides major hazards as well. More than half of the questionnaire respondents only spend less than 25% of their time on Seveso II obligations.

The second enforcement agency involved, the labour inspectorate, is divided into six regional offices. In total, about 25 labour inspectors are major hazards specialists. Opposed to the environmental inspectors, the labour inspectors do often work full-time on this topic. A large percentage of the labour inspectors working on Seveso II are solely responsible for this legislation.

Officially, the 'courts of mayor and alderman' and the mayors of municipalities are the third Dutch enforcement actor with a responsibility for the external emergency plans and the information that needs to be given to the public. In practice, however, responsibility for these two aspects is delegated to the fire brigades. Almost all 496 Dutch municipalities have their own fire brigade. For the Seveso II legislation, all municipal fire brigades were divided into five large clusters. The interior affairs ministry provided 12 new full-time jobs to be divided over these five clusters in order to execute the Seveso II enforcement. Added to these, some municipal fire brigades – of the 70 municipalities that house a Seveso establishment – have a few people working on this topic, mostly part-time. In general, this means that approximately 70 to 90 people are part-time working on Seveso II besides the 12 people full-time in the five clusters.⁵

In total 270 Dutch inspectors are involved in the enforcement of the Seveso II directive. These inspectors are responsible for checking the compliance of both the upper and lower tier establishments. The percentage of their time that these inspectors spend on this enforcement differs. Environmental inspectors generally only spend a small percentage of their time on the Seveso II enforcement. Labour inspectors, on the contrary, usually work on this topic full-time. Within the fire brigade there is a division: the 12 inspectors in the clusters enforce Seveso II almost full-time whereas the remaining fire brigade inspectors only devote a small percentage of their time to this topic.⁶

Since of the three agencies involved the environmental authority is the 'competent authority', this agency has the task of 'box-office'. It arranges all contacts with Seveso establishments and collects all documentation that companies have to hand in. Besides this, the competent authority has no extra tasks compared to the two other agencies. The actual enforcement is a joint activity in the Netherlands. This means that the three agencies have to work together as a team during the assessment of the safety report and the inspection of Seveso II establishments. In order to help the inspectors from the three agencies to co-operate, the government provided a manual for co-operation in the execution of the Seveso II legislation, the so-called 'HUBO'.⁷ The main purpose of this manual is to assist inspectors from the three different agencies with the possible difficulties arising from having to work together. It contains an overview of all relevant legislation, some tips for co-operation and joint inspections and some possible working-methods for various situations.

Whereas in most other Member States the assessment of the safety report and the inspection are seen as separate phases in the enforcement activities related to the Seveso II directive, in the Netherlands these two aspects are seen as inseparable. In most other countries, inspectors first assess the safety report and after the approval of the report they start the inspection programme. In the Netherlands the upper tier establishment has to be inspected first before the assessment can be finished and the safety report can be approved of. Therefore, most Dutch inspectors are responsible for both the assessment and the inspection. Per Seveso II establishment, a team of representatives of the three enforcement agencies is responsible for the assessment and inspection together. A team consists of at least three persons; one from every organisation. For larger companies this number can easily extend to five or six persons.

Inspectors generally are responsible for more than one establishment and therefore participate in more than one team. On average, the questionnaire respondents are responsible for nine upper tier establishments and five lower tier establishments: thus 14 Seveso II establishments in total. In some parts of the Netherlands, the co-operation of inspectors in different teams can be very complex. It often is difficult to establish these teams since the three enforcement agencies are all divided into different regional offices. There are only six regions of the labour inspectorate, but 12 provinces and approximately 70 municipalities with Seveso II companies. One labour inspector, for example, can very well be responsible for four establishments within his own region, but he may have to co-operate in four different teams with different representatives of the environmental authority and the fire brigade. This makes it complex and difficult to build up one working practice because all different teams may have a different approach.

Co-operation between the three enforcement agencies can be difficult in the Netherlands. The labour inspectorate in the south-west region, for example, has to co-operate with one environmental agency, four different provinces and more than 20 municipalities and fire brigades.

Table 3.1: General organisation in the Netherlands (number of respondents in brackets)

	EA	LI	FB	total
Number of inspectors.	145	25	100	270
Inspectors work part-time or full-time on Seveso II (in percentages):				
• 0-25%	56	0	14	23
• 25-50%	11	14	7	11
• 50-75%	22	21	14	19
• 75-100%	11	64	64	47
Are the enforcement agencies expected to co-operate during the assessment and inspection?	yes (teams of 3 to 6 members)			
Actual contact between inspectors of different agencies (in percentages):				(47)
• often	0			
• regular	100			
• sometimes	0			
• never	0			
Inspectors are responsible for... (in percentages)				(46)
• assessment	15			
• inspection	2			
• both assessment and inspection	83			
On average, for how many establishments are inspectors responsible?				
• upper tier	9			(44)
• lower tier	5			(39)
• total	14			

3.2.2 *Assessment of the safety report*

Usually the enforcement practice in an upper tier establishment starts with a general visit to this company to explain the Seveso II directive and all its basic requirements. Especially the labour inspectors made a habit of doing this. It is common practice in the Netherlands that a company is visited a couple of times – this can differ from one to more than ten, but usually this is two to five times – during the process of writing the safety report. Some of the larger multinationals that were interviewed even talked about a regular meeting on the progress of the safety report every six weeks.⁸ The reason for these frequent visits during the phase of writing the report, according to some interviewees, is that inspectors want to make sure that companies write what they want them to write. Inspectors rather invest some time during the writing process than lose much time during the assessment when companies have not written the report correctly. Inspectors want to prevent that they receive incomplete or incorrect reports and they also want to prevent companies from having to rewrite the report many times.

After receiving the safety report, inspectors study this report at the office. The number of people responsible for the assessment varies from two to six people per report, the size of the team depending on the size of the safety report. The Dutch government, in co-operation with the enforcement agencies and the companies, developed a tool for the inspectors to use to assess a safety report: 'RIB'.⁹ The 'RIB' especially pays attention to the assessment of the sce-

narios companies have to describe in their safety report. Besides the safety report, it also focuses on the 'Major Accident Prevention Policy' and 'Safety Management System'. Almost all inspectors use this tool when assessing a safety report.

During the assessment, inspectors first have to check the report for completeness. They check whether the company needs to give more information. Apart from a few exceptions, most reports are sent back for extra information. Despite the high number of visits by the inspectors during the writing process, companies often have to rewrite the report before it is accepted by the enforcement agencies. After receiving this updated report, the actual assessment can start. The three agencies do this separately, but usually once or twice during the assessment process a team meeting will be held to discuss the results. The team tries to be as efficient as possible:

not every team member is supposed to assess the entire report. Usually they try to divide the safety report in such a way that each inspector checks those aspects related to his or her own specialisation. For example, they try to let the environmental inspectors assess all environmental aspects. In practice, however, it seems that it often is difficult to strictly divide a safety reports into three pieces. According to some interviewees, many inspectors still read almost the entire safety report. The questionnaire confirms this: almost half of the inspectors assess the entire safety report. On average, most of the individual assessors seem to spend between five to ten days per assessment of a safety report. With an average team of four assessors this would mean twenty to forty man-days in total. The Dutch government adopted a strict time schedule within which the assessment (and thus the first inspection) should be finished: six months with a possible extension to nine months.¹⁰ Many inspectors complain that for large establishments with big safety reports this deadline is impossible.

Example from 'RIB', page 42.

7.3 ad. Part 2 Description of the installation.

This part should contain descriptions of the installation:

- the installation and its layout
- the dangerous substances present
- the organisation and the safety management system within the installation
- the description of foreseeable hazards of identified scenarios (scenarios are those circumstances that can lead to a loss of containment and its consequences, that form a major accident)
- hazard-zones of explosion hazards
- the description of the specific preventive, protective and repressive measures (lines of defence)
- the description of specific emergency provisions

Table 3.2: Assessment of the safety report in the Netherlands (answers in percentages; number of respondents in brackets)

	Inspectors	Companies
The assessment is outsourced.	0 (47)	
Number of visits during the writing of the safety report:	(40)	(28)
• 0	0	0
• 1	10	7
• 2-5	67	71
• 5-10	23	18
• > 10	0	4
Number of assessors:	(45)	
• 1	9	
• 2-3	40	
• 4-6	49	
• > 6	2	
Usage of a tool to assess the safety report.	95 (42)	
Companies rewrite the safety report:	(47)	(28)
• never	6	3
• 1 time	11	47
• 2 or 3 times	32	50
• more than 3 times	13	0
• don't know yet	38 ¹¹	0
Percentage of assessors who check...	(43)	
• the entire report	44	
• only a part of the report	56	
Number of days per assessment, individual assessors:	(43)	
• 1-5 days	33	
• 5-10 days	51	
• > 10 days	16	
Number of man-days per entire assessment.	20-40	
Deadline assessment safety report?	6 months (possible extension to 9 months)	

3.2.3 Inspections

As stated above, the first Seveso II inspections in the Netherlands were integrated in the entire process of assessing the safety report. Since a safety report only has to be rewritten once every five years¹², the inspections in the intermediate years before the next assessment will be executed separately from the assessment. However, this first time the inspections formed a part of the entire assessment procedure: inspectors had to inspect the establishment before they could finish the assessment. Before starting an inspection, inspectors read company documents at the site. During the inspection itself, inspectors interview a number of employees and walk around the plant. Basically they want to check whether the information in the safe-

ty report coincides with the actual practice in the establishment. Different kinds of people will be interviewed, from plant managers to maintenance personnel. When walking around the plant, a number of scenarios will be selected from the safety report and inspectors check the installations that are described in the selected scenarios. Normally, the entire team that is responsible for the assessment will also execute the inspection. This means that a team of three to six people will visit the site, depending on the size of the establishment. According to the inspectors it is common that inspections focus on the topic of the Seveso II directive alone.¹³

The 'Ministry of Social Affairs' developed two inspection tools for the labour inspectors: one especially for lower tier establishments¹⁴ and one for upper tier establishments. This last tool is called 'AVRIM 2'.¹⁵ The first AVRIM method was an instrument for labour inspectors to check former reports on worker safety. AVRIM 2 was developed as a tool for Seveso II inspections mainly for labour inspectors, but other inspectors can use it as well. This tool is a rather extensive way for inspectors to check whether a company has a good functioning 'major accident prevention policy' and 'safety management system'. Besides, it checks whether the safety report is complete and functioning. This will be done with the help of a control- and monitoring loop. Companies must describe their risks with the help of a risk matrix in which they indicate the severity of the consequences and the probability of failure. AVRIM 2 especially checks the quality of the different scenarios in the safety report. A small majority of the Dutch inspectors use AVRIM 2 when inspecting upper tier establishments.¹⁶ According to the interviewees there is quite some comment on the complexity of the AVRIM 2 tool. Some inspectors consider the inspection tool to be too time-consuming and too complex to use during inspections. Companies also complain about the time-consuming character of AVRIM 2. They feel that inspections last unnecessarily long when inspectors use this instrument.

The inspectors were asked to mention the average length of company-visits. The inspectors thought this question was difficult to answer since the length of company-visits differs very much per topic. As some respondents stated, a visit during the writing of the safety report is usually shorter than one day but the actual inspection of a site can last a couple of days. The average amount of time spend on the inspection of an upper tier establishment is about three to five working days on-site with a team of at least three inspectors. This means that the total number of man-days used per inspection of an upper tier establishment is between ten to twenty man-days. Companies agree with this average; they state that an inspection lasts between two to five days with a team of three inspectors.

Some of the interviewees estimated the total number of days per average upper tier establishment for the entire Seveso II enforcement: all team meetings, the entire assessment of the safety report and the inspection combined. The average of fifteen to twenty days for one inspector per upper tier establishment was mentioned. For the entire process of meetings, assessment and inspection – on the basis of an average team of four inspectors – this leads to sixty to eighty man-days of work per average upper tier company on the side of the government. Approximately half of these days are spend at the site and the other half are spend at the office on internal meetings and reading documents.

A small majority of the company respondents see a difference between the enforcement agencies during the inspections. The main comment mentioned is the difference in focus. Even though the agencies inspect jointly, each agency has its own focus and points of attention. In general, the companies consider the labour inspectors to be most focused on details and environmental inspectors more on general aspects.

Table 3.3: *Inspections in the Netherlands (answers in percentages; number of respondents in brackets)*

	Inspectors	Companies
Inspections are outsourced.	0	(47)
Number of inspectors per inspection:		(45)
• 1	9	
• 2-3	40	
• 4-6	49	
• > 6	2	
Focus of the inspections?		(45) (26)
• only on Seveso II	69	35
• also on other legislation	31	65
Inspectors use an inspection-plan:		(47)
• yes, followed strictly	17	
• yes, but possible to deviate	49	
• no	34	
Inspectors are free to decide what to inspect:		(41)
• inspectors use a strict format	14	
• inspectors use a loose format	54	
• inspectors are free to decide	32	
Usage of an inspection tool.		(39)
The average length of a company-visit is...		(40) (27)
• < 1 day	30	33
• 1 day	35	19
• > 1 day	35	48
Total number of man-days per inspection.	10-20	
Total number of man-days on-site (assessment + inspection combined).	25-35	
Total time spend by inspectors per upper tier establishment (in man-days).	60-80	
Expected number of annual Seveso II inspections:		(40) (28)
• 0	7	4
• 1-2	60	64
• 3-5	28	21
• 5-10	5	7
• > 10	0	4
There are differences between the enforcement agencies during the inspections.		62 (21)

After the inspection, the team of inspectors must draw up its conclusion on the safety report. According to some of the interviewees, it is sometimes hard to reach one opinion. Each team forms a many-coloured collection in which everybody tries to work according to his or her own tradition. This can lead to difficulties within teams and large differences between teams. In the Netherlands, there is a discussion between inspectors and the government on the acceptability statement. Inspectors find it difficult to say that a safety report is 'acceptable'. Inspectors do not want the risk to say 'acceptable' to the safety report of a company that might experience a major accident afterwards; inspectors do not want the risk of being held responsible for an accident. This led to the situation in the Netherlands in which the government is now trying to see whether they can establish a sort of checklist for inspectors to make the decision on the acceptability more formalised.

3.2.4 Sanctioning practice

The three Dutch enforcement agencies inspect together, but they sanction according to their own legislation. The environmental authorities sanction according to the 'Environmental Management Act'. According to this act environmental authorities can partly or totally withdraw an environmental license in case of non-compliance by the regulated. As well, environmental inspectors can sanction according to administrative law. According to this legislation they have the right to look into books and other documents; examine conveyances and their loads; enter all rooms and take in goods and samples. They can also impose fines according to this legislation.

The labour inspectorate can use both criminal and administrative instruments. The main criminal instrument that can be used is the warrant. Possible administrative instruments are agreements or warnings, demands to comply, the opportunity to close down an establishment and, since 1999, the administrative fine.¹⁷

Formally, the fire brigade has no options when it comes to sanctioning, since the actual enforcement is under the responsibility of the courts of mayor and aldermen of the municipalities. Based on the 'Disasters and Major Accidents Act', mayors have the right to close down a company and impose fines when the obligation to provide information is not complied with. They can also ask for further information concerning the in-company fire brigades and can decide to forbid a company to come into operation when information is not provided sufficiently. The fire brigade inspectors cannot enforce the Seveso II legislation on their own and are dependent on the other two agencies and the mayors, therefore.

At the moment of completing the questionnaire (spring 2001), inspectors were still in the middle of the first phase of assessing and inspecting the establishments and therefore did not have much experience with sanctioning yet. Dutch inspectors find it difficult to estimate what will happen in the future; they have no clear picture of the future Seveso II sanctioning practice.¹⁸

Table 3.4: Sanctioning practice in the Netherlands (answers in percentages; number of respondents in brackets)

	Inspectors		Companies	
Frequency of future sanctions:		(24)		
• never	29			
• 0-25%	37			
• 25-50%	13			
• 50-75%	8			
• 75-100%	13			
Frequency of warning before imposing a sanction:		(27)		
• never	15			
• 0-25%	11			
• 25-50%	7			
• 50-75%	19			
• 75-100%	48			
Expected types of instruments used most often.			- warrant	
			- penalty	
Percentage of inspectors who consider the following circumstances:				
• company size	32	(19)		
• severity of the infringement	80	(20)		
• costs to undo the infringement	60	(20)		
• financial situation	45	(20)		
Inspectors consider...				
• company-specific circumstances	89	(46)	92	(24)
• compliance costs	35	(44)	25	(24)
The decision to impose sanctions is made by...		(25)		
• me (inspector)	4			
• enforcement agency	12			
• jointly (inspector + agency)	52			
• manual	32			
Percentage of respondents where a violation was found.			21	(28)
Percentage of detected respondents that received a warning first.			83	(6)
Percentage of respondents that received a sanction...				
• of all respondents			3	
• of the detected companies			17	

Generally speaking, Dutch inspectors do not think that they will often sanction for non-compliance with the Seveso II directive. There is a difference of opinion between the enforcement agencies: labour inspectors expect to sanction most often and the fire brigade inspectors expect to sanction the least. According to the inspectors it is rather normal, unless the

infringement is very severe, to give a company the chance to improve the situation before imposing a sanction. Inspectors are inclined to give a warning first. In general, the type of sanctioning instrument that inspectors expect to use most often is the warrant.¹⁹

Dutch inspectors do not seem to consider an infringement as such as sufficient reason for direct sanctioning. They take the severity of an infringement into consideration before they impose a sanction. Inspectors and companies agree that inspectors, in general, consider company-specific circumstances before they impose a sanction. They do not consider compliance costs, however.

Up until spring 2001, in 6 of the 28 company respondents (21%) a violation of the Seveso II legislation was found. Of these six detected companies, five received a warning that they should undo the violation; which they did. The last company received an administrative fine by the labour inspectorate of 2300 euro.

In November 2001, a team of inspectors of the three agencies in the Rotterdam-Rijnmond area tried to impose a sanction related to the Seveso II legislation that failed. This team tried to temporarily close down a company because of an incomplete safety report and safety management system. This first case of inspectors trying to sanction a company jointly according to the Dutch 'Major Accident Hazards Decree 1999' – the legislation that transposed the Seveso II directive – proved that this decree is not precise enough in this respect. It proved that it is not possible to close a company based on this decree. The decree therefore has to be changed in order to make it possible to sanction companies accordingly.

3.2.5 Relationship between inspectors and companies

The relationship between inspectors and Seveso II upper tier establishments in the Netherlands is considered to be good by both parties. Most of the inspectors and companies feel that the inspections are based on co-operation and that the relationship can be described as co-operative. There is a difference between the three enforcement agencies in this respect: labour inspectors are more negative about the co-operation of companies than the fire brigade and environmental inspectors are. Both companies and inspectors consider the atmosphere to be rather formal. Again, a difference can be noticed between the enforcement agencies. Only half of the labour inspectors consider the atmosphere to be formal, whereas all fire brigade inspectors agree to this statement.

Discussions and advice play an important role in the relationship between companies and inspectors in the Netherlands. Both parties agree that discussions are important in the regular contact and there often are discussions on the content of the Seveso II legislation. Inspectors seem to be willing to offer companies advice on how to comply with the legislation. Again there is a difference between the three enforcement agencies. Only half of the labour inspectors claim to give advice, whereas most of the fire brigade and environmental inspectors often advice companies.

In general, Dutch inspectors feel rather dependent on companies in order to receive all information necessary for good enforcement. A large number of inspectors feel that it is necessary to have a good relationship with companies in order to be able to enforce the Seveso II legislation. Especially environmental inspectors agree to this statement, whereas labour inspectors feel the least dependent of the three enforcement agencies.

Table 3.5: Relationship between inspectors and companies in the Netherlands (answers in percentages; number of respondents in brackets)

	Inspectors		Companies	
Relationship in general				
• The relationship is good.	100	(47)	100	(25)
• The inspections are based on co-operation.	88	(42)	88	(24)
• There is a formal atmosphere.	81	(46)	76	(25)
Room for discussion / advice				
• Discussion is important.	100	(47)	89	(27)
• There often is discussion on the content of legislation.	89	(44)	96	(25)
• Inspectors often give advice.	77	(47)	76	(25)
Dependency inspectors on companies				
• A good relationship with companies is necessary for good enforcement.	72	(43)		
• I am dependent on companies for obtaining information.	96	(47)		

3.3 Germany²⁰

3.3.1 Introduction

Since Germany is a Federal Republic and the state functions are divided between the central government and the 16 Länder, the 16 Länder individually carry out all enforcement activities. In this research, three of the 16 Länder were chosen to represent Germany: North-Rhine Westphalia, Baden-Württemberg and Bavaria.

In order to make sure that not all Länder have complete different ways of enforcing the Seveso II legislation, there are meetings twice a year between the different Länder and the federal ministry for the environment in a committee called 'Installation Safety' ('Anlagen Sicherheit'). During these meetings common solutions to certain problems are discussed in order not to re-invent the wheel every time. Apart from these meetings, the organisation of the enforcement is arranged individually in all Länder. As the next descriptions will show, the administrative implementation was still in progress in Germany during the time of conducting this research (spring and summer 2001). None of the three Länder completely finished arranging all aspects necessary for an adequate Seveso II enforcement practice. The Länder were still in the phase of establishing procedures or common practices. This sometimes makes a complete overview impossible. In order to still give an idea of the German enforcement practice, respondents' expectations for the future are presented in some cases.

a) North-Rhine Westphalia

North-Rhine Westphalia is divided into five regional governments ('Regierungsbezirk') which are further divided into 93 local authorities ('Gemeinde und Stadtkreis'). Opposed to Baden-Württemberg and Bavaria these regional governments and local authorities are not involved in the enforcement of the Seveso II directive in North-Rhine Westphalia. This task is delegated to specialised enforcement agencies: the 'Regional Environment Agency' ('Staatliches Umweltamt') and 'Regional Agency for Labour Protection' ('Staatliches Amt für Arbeitsschutz'). The number of Seveso II inspectors within these two agencies is hard to esti-

mate. The reason for this is that both the regional environment agency and the regional agency for labour protection are divided into twelve offices. Thus in total there are 24 offices in North-Rhine Westphalia where inspectors enforce the Seveso II legislation. Since all 24 offices arrange their enforcement practice on their own – there is no centralised internal organisation – it is hard to precisely state the total number of inspectors with Seveso II obligations. Based on the example of the office of the environment agency in the region Cologne – which has approximately 30 inspectors who are responsible for the Seveso II enforcement – the number of 300 to 500 inspectors in total is used as a rough estimate.²¹ These inspectors generally are not solely responsible for the enforcement of Seveso II. They also take care of supervising the implementation of other acts and ordinances dealing with environmental and labour protection. According to the interviewees there are no or only a small percentage of full-time Seveso II inspectors in North-Rhine Westphalia.

Of the two agencies, the environment agency is assigned as the competent authority for Seveso II. The 12 environment agencies are the contact persons for the upper tier establishments and they are the authority companies have to send their documents to. At the moment of conducting this research in North-Rhine Westphalia (spring 2001), there was no final advice yet on whether the environment and labour protection agencies are expected to co-operate during the enforcement. The agencies are still waiting for official regulation in this area. Up until now, it very much depends on the people within one region whether they co-operate or not. Regions with a history of working together co-operate on the Seveso II enforcement, whereas regions without such a history are less likely to do so. In Cologne, for example, there is close contact between the environment agency and the agency for labour protection and thus there is co-operation on the Seveso II enforcement. The general expectation in North-Rhine Westphalia is that there will be teams with two to four members for each upper tier establishment with representatives of both agencies. It is also expected that the inspectors who assess the safety report will also inspect that establishment.

b) Baden-Württemberg

In Baden-Württemberg the environmental departments of the regional governments ('Regierungsbezirk') or local authorities ('Land-/Stadtkreis') enforce the Seveso II directive together with the 'Factory Inspectorate' ('Gewerbeaufsichtamt'). In total there are four regional governments and within these regions there are 44 local authorities. Which authority is the official competent authority for the Seveso II directive depends on the establishments. The regional governments are the competent authority for all upper tier establishments. The lower tier establishments can be under the competent authority of the regional government or of a local authority. A lower tier company with one or more installations licensed by the regional government will be under the competent authority of the regional government. A lower tier establishment with only installations licensed by the local authority will be under the responsibility of this local authority. Thus in this research only regional governments are involved since they are responsible for the upper tier establishments. Besides the four regional governments, the factory inspectorate – which is divided into nine offices – is involved in the Seveso II enforcement.

Officially, the regional governments (who are the competent authorities) are not obliged to co-operate with the factory inspectorate. Generally speaking, the functions are divided; the regional governments are responsible for the assessment of the safety reports and the factory inspectorates for the inspections. In some regions there is co-operation and the regional government will involve the factory inspectors in the assessment, however not in all.

The number of persons responsible for the assessment of the safety reports in the regional governments is not available. It is expected that there will be two to six people per regional government, thus eight to twenty-four in total.²² Within the factory inspectorate, there are approximately 100 inspectors who have one or more Seveso II establishments under their control. The number of inspectors differs per each of the nine offices of the factory inspectorate in Baden-Württemberg. In Villingen-Schweningen, for example, five inspectors are involved in inspecting the Seveso II directive. These five inspectors are responsible for 13 Seveso II companies. In Tübingen about 10 inspectors are responsible for 14 Seveso II companies, whereas in Mannheim 12 inspectors inspect 42 Seveso II companies. In general, inspectors are responsible for one to four Seveso II establishments. There are no full-time Seveso inspectors. Even though they are more specialised in major hazards legislation than the other inspectors at the factory inspectorate are, they have other responsibilities as well.

All factory inspectors in Baden-Württemberg only enforce Seveso II part-time. The time spend on Seveso II differs per inspector. A respondent from Mannheim claims to spend 20 to 30% of his time on this topic whereas a colleague from Tübingen only spends 5% in total.

c) Bavaria

Bavaria appointed the same agencies for the enforcement of the Seveso II directive as Baden-Württemberg did: the environmental departments of the regional governments ('Regierungsbezirk') or local authorities ('Land-/Stadtkreis') and the 'Factory Inspectorate' ('Gewerbeaufsichtamt'). Of these two, the environmental authority is the competent authority; thus the environmental department of one of the seven regional governments or one of the 96 local authorities. Whether the regional government or the local authority is responsible for the enforcement depends on which one is responsible for the environmental license. Generally speaking, the regional governments are competent for the upper tier establishments and the local authorities for the lower tier establishments.

The number of environmental and factory inspectorate inspectors who focus on Seveso II is hard to estimate. All seven regional governments, 96 local authorities and eight regional offices of the factory inspectorate have their own organisation and thus arrange the enforcement individually. The number of inspectors depends on the number and sort of establishments located within a region. One respondent gives the following numbers: two persons for every local authority, three persons per regional government and ten inspectors per regional office of the factory inspectorate. When taking these numbers as examples for entire Bavaria, approximately 210 persons work on Seveso II obligations at the environmental authorities²³ and 80 inspectors at the factory inspectorate²⁴; thus in total there are 290 Bavarian inspectors with Seveso II tasks. Most of these 290 inspectors only spend a small percentage of their time on Seveso II. There are no full-time Seveso inspectors.

The enforcement of the Seveso II directive is a joint responsibility of the two actors in Bavaria. The environmental authority is the competent authority, but the overall responsibility for the assessment of the safety report and the inspection is shared. Inspectors from both parties claim to regularly have contact with each other. Per establishment, a team with representatives of both agencies is responsible for the enforcement. Usually two to four persons per team are involved. The main difference between the different authorities forms the aspects they focus on. The environmental authorities mainly pay attention to (ground)water, fire protection and external emergency plans. The factory inspectorates mostly focus on the safety of workers and

the design and constructions of plants. These tasks are divided as much as possible. In general, each Bavarian inspector is responsible for four to five upper tier establishments and also for four to five lower tier establishments; approximately eight to ten in total.

Table 3.6: General organisation in Germany

	NRW	BW	BAV
Number of inspectors.	300-500	115	290
Inspectors work part-time or full-time on Seveso II?	part-time	part-time	part-time
Are the enforcement agencies expected to co-operate during the assessment and inspection?	not known yet (expectation is 'yes': teams of 2-4 members)	no (however, spontaneous co-operation in some regions)	yes (teams of 2-4 members)
Actual contact between inspectors of different agencies.	not known yet (differs per region)	differs per region: in some heavily, in others nothing	regularly
Inspectors are responsible for...	both assessment and inspections	differs per region	both assessment and inspections
On average, for how many establishments are inspectors responsible?	not known yet	1 to 4 (upper and lower tier together)	upper: 4 to 5 lower: 4 to 5 total: 8 to 10

It is hard to compare the number of inspectors with Seveso II obligations in the three Länder since there are no official numbers available yet. Based on the estimates there are slightly more inspectors in North-Rhine Westphalia, a difference that can easily be explained by the fact that this Land is larger and more industrialised than the two other Länder are. One conclusion that can be drawn is that there are no full-time Seveso II inspectors in Germany. All inspectors with Seveso II responsibilities also enforce other legislation. In all three cases the enforcement agencies represent the policy areas 'environment' and 'occupational safety and health' and the environmental authority is the competent authority.

The co-operation between the different agencies on the assessment and the inspections differs. This does not only differ between Länder; it also differs between regions within Länder. There is no common practice yet and the future will show whether agencies actually co-operate or not during the enforcement. It does seem to be common practice (except for some regions in Baden-Württemberg) to establish a team with representatives of the two agencies per upper tier establishment that is responsible for both the assessment of the safety report and the inspections.

3.3.2 Assessment of the safety report

a) North-Rhine Westphalia

Before the Seveso II safety report, companies already had to hand in a Seveso I safety analysis. For this old analysis, North-Rhine Westphalia established a special procedure for its

assessment. This assessment procedure is used when companies want to change something to an existing installation or built a new installation. In this case the license and the part of the safety analysis related to this installation need to be changed or a safety analysis has to be set up for this new installation. The authority responsible for the license will receive the (part of the) safety analysis that deals with that particular installation. This authority can be the regional environment agency or regional agency for labour protection. This (part of the) safety analysis is not assessed by these regional agencies themselves, but by the 'Workgroup on Plant Safety'. This workgroup consists of 25 experts: 20 from the 'Environment Institute' ('Landesumweltamt') and five from the 'Labour Protection Institute' ('Landesanstalt für Arbeitsschutz').²⁵ It was created after the adoption of Seveso I as an expert team assisting the enforcement agencies in North-Rhine Westphalia in all questions concerning safety technologies and major accidents. The workgroup consists of experts with a background in engineering and natural sciences. Normally a team of two to four persons with representatives from both institutes assesses the analyses. The analyses will as much as possible be divided by topic: the environmental experts will look into the environmental aspects and the labour protection experts will assess the occupational safety and health topics. The experts pay a short visit to the site to make sure that the situation described in the analysis corresponds to the practice.

In the summer of 2001 there was no regulation for this yet, but it is very likely that this already existing procedure for assessing the (parts of the) old safety analysis will be used for the new Seveso II safety report assessment as well. North-Rhine Westphalia set up an instrument that the workgroup on plant safety can use to assess a safety management system: the 'Safety Management Valuation Programme'. This is a software tool that consists of 90 review points in eight different categories such as 'company policy', 'organisation and personnel' and 'planning for emergencies'. It is a programme that can calculate whether the safety management system is sufficient. Inspectors are not obliged to use the programme and according to an interviewee in Cologne not all inspectors are enthusiastic about it. It is expected that the workgroup will involve the environmental and labour inspectors in the assessment. Up until summer 2001 no safety reports were received and thus there was not yet any experience with the actual assessment under Seveso II.

b) Baden-Württemberg

Upper tier establishments have to send their safety reports to their regional government, since they are the competent authority for all upper tier establishments in Baden-Württemberg. These authorities are responsible for the reports but most of the times they do not have sufficient technical knowledge to assess them on their own. In order to make an accurate decision whether the reports are sufficient, they will often need the experience and knowledge of the inspectors to execute the assessment. Therefore, inspectors from the factory inspectorate will often be involved in the process of assessment as well. In addition, the regional governments may also ask advice from external experts or may contract independent consultants or engineering offices. Whether these third parties will be used often is not yet clear at the moment.

All four regional governments have their own practice of executing the assessment and the extent to which they will involve the factory inspectors in the assessment differs per government therefore. Some will use the knowledge of the inspectors; others will completely delegate this to third parties. Because the regional governments arrange the assessment practice independently there also is a difference in the extent to which they set up tools for the assessment of the safety report. In Freiburg, the regional government is working on a 'safety report help' to support the assessors.

The first safety reports were just received in Baden-Württemberg in autumn 2001 and therefore there was no real experience yet with the entire phase of assessment at the moment of conducting this research. In general, it is expected that the process of assessing a safety report is a combination of reading the documents at the office and visiting the site to check the content of the report with the reality. Most important about a safety report is that it has to be understandable; it must be easy to read. This is important when reading the document at the office: is it understandable, is it logical, is there a structured hazard assessment? It is encouraged that the assessment of the safety reports is done in teams.

The inspectors of the factory inspectorate in Tübingen do not expect to be involved in the assessment too often. They expect the regional government to arrange this autonomously. The regional government of Freiburg, however, intends to involve the factory inspectors extensively. This regional government is responsible for 16 upper tier establishments and thus for 16 safety reports. They plan to do the assessments in co-operation with the factory inspectorates of Freiburg and Villingen-Schweningen. They, together, have a project group in which they discuss and coordinate all assessments.

c) Bavaria

Bavarian companies have to send their safety report to the regional governments since they are the competent authority for the upper tier establishments. At the moment of the completion of the questionnaire, the respondents were still in the middle of receiving the first safety reports and none of the reports was yet completely assessed. According to the interviewees, it will be common practice that assessors from the environmental authority will co-operate with the factory inspectorate and complete the assessment together. The regional governments often do not have the special expertise needed for the assessment. Each group will only assess the parts related to their own expertise: environmental inspectors the environmental part and factory inspectors the workers safety part. Individual inspectors have different expectations concerning the duration of one assessment: some inspectors expect one assessment to last between one to five days and some inspectors expect to spend between five to ten days. With an average team of two to three assessors an entire assessment would last ten to thirty days. The inspectors do not have a deadline for the assessment of the safety report.

For all three Länder it is hard to describe the actual Seveso II assessment practice since none of the Länder finished a complete assessment at the time of conducting this research. Safety reports were just being received and the first assessment procedures just started. Of course German inspectors already gathered safety analyses under Seveso I and they have experience with these assessments, but the Seveso II assessment practices were yet to be established at the time of conducting this research. Only in North-Rhine Westphalia will the inspectors outsource the assessment to a special workgroup; in the other two Länder the inspectors will most likely do the assessment themselves. It will be common practice that the assessors pay one or two short visits to the site during the assessment. Normally a team of different experts – who will all only assess the part of the report related to their own field of expertise – will execute the assessment. Only in North-Rhine Westphalia there is a tool for the assessors to support them. None of the representatives mentioned a deadline for the completion of an assessment.

In none of the three Länder the assessment according to Seveso II already started. The assessments were, at the time of conducting this research, still based on the requirements of the Seveso I directive.

Table 3.7: Assessment of the safety report in Germany (answers in percentages; number of respondents in brackets)²⁶

	NRW	BW	BAV	
The assessment is outsourced.	yes	differs per region	no	
Number of visits during the writing of the safety report.	1-2	1-2	1-2	
Number of assessors.	2-4	differs per region (2-5)	1-3	
Usage of a tool to assess the safety report.	assessment tool available, not known how many inspectors use it	preparation of a assessment tool in Freiburg, not available yet	no assessment tool available	
Number of times companies rewrite the safety report.	not known yet	not known yet	once	
Percentage of assessors who check...				(5)
• the entire report	0	not known yet	20	
• only a part of the report	100		80	
Number of days per assessment, individual assessors:	not known yet	not known yet		(5)
• 1-5 days			40	
• 5-10 days			60	
• > 10 days			0	
Number of man-days per entire assessment.	not known yet	not known yet	10-30	
Deadline assessment safety report?	not known yet	not known yet	no	

3.3.3 *Inspections*

In Germany it is possible to contract third parties and have the inspections carried out by experts.²⁷ There is a German tradition of delegating inspections to third parties for over 125 years. The first organisation of independent experts was already founded in 1866: ‘Steam Boiler Monitoring Association’ (‘Dampfkesselüberwachungsverein’: ‘DÜV’). As early as 1900, the task of inspecting all steam boilers was delegated to 25 regional DÜVs. The former DÜVs are now known as TÜVs: ‘Technical Monitoring Association’ (‘Technischer Überwachungsverein’: ‘TÜV’). The name was changed because their tasks were expanded to inspecting more installations than steam boilers alone. At the moment eight regional TÜVs are responsible for inspections, certifications, consultancy and audits. In general, the TÜVs are responsible for testing pressure vessels, pipes and steam boilers. Besides these TÜVs, Länder can also appoint other independent experts to delegate the inspections to. The extent to which third parties are used for the inspections differs per Land.

a) North-Rhine Westphalia

Inspectors of the 24 offices of the environment and labour protection agencies carry out the inspections. When inspecting companies for Seveso-related affairs, inspectors of both agencies are expected to work together. The teams most likely will exist of one or two persons from the environment agency and one or two persons from the agency for labour protection.

The 'Safety Management Valuation Programme' that was set up to assess the quality of the safety management system in the safety report can also be used during the inspections.

Besides this common tool, all 24 offices of the two enforcement agencies have the opportunity to set up their own guidance material. The environment agency in Herten, for example, set up a handbook for Seveso II inspections: 'Inspektionshandbuch'. The handbook consists of two parts. In Part A, the criteria for the evaluation of the risks are described. It helps inspectors to decide the allowed maximum interval between the inspections. Part B concerns the monitoring system. It consists of a number of basic questions that need to be asked during every inspection and a number of detailed questions that can differ per company. It is not yet known to what extent the inspectors will actually use such instruments.

'Inspektionshandbuch' Herten
Part A, chapter 6 'labour protection'

- 6.1 Was a risk analysis conducted?
- 6.2 Is the 'Labour Protection Management System' available?
- 6.3 1) Have there been incidents according to the Seveso II legislation?
2) Have there been deadly accidents?
- 6.4 Are the appropriate 'safety analysis documents' according to the old legislation (Seveso I) available?

The main reason why it is not known how inspections are organised and what they look like in practice is that during the time of the interviews the inspections according to Seveso II did not yet start. The inspections that were carried out were still based on Seveso I and inspectors indicated to start the Seveso II inspections from autumn 2001 onwards. An interviewee in Cologne estimated that an average inspection would last one to three days, depending on the size of the establishment.

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As stated, there is a possibility to delegate the inspections to a third party in Germany. It is expected that this option will not be used very often in North-Rhine Westphalia. In Cologne, for example, they do not plan to use external experts for the Seveso II inspections at all. They might consult them for special problems, but it is not expected that they will be used on a regular basis.

b) Baden-Württemberg

The factory inspectors are responsible for inspecting the Seveso II directive in Baden-Württemberg. The regional governments are not involved in this activity. The factory inspectorate is responsible for both environmental and occupational safety and health legislation and therefore this agency is able to inspect all elements within the Seveso II directive alone. Since the safety reports still have to be assessed, the inspections are not yet based on the new directive. One inspector usually will do the inspection of an upper tier establishment alone. Most Seveso II inspections started in autumn 2001. It is intended that the enforcement of the Seveso II legislation is integrated in the already running general safety inspections. Attention for the Seveso II directive will form the core of these inspections, but other legislation related to safety will be checked as well.

Inspectors have freedom to decide what to inspect and how to do the inspections. The only aspect that is uniform in the whole of Baden-Württemberg is that all inspectors use the same form to document the inspection. This standardised form was made for inspectors in order to provide for a uniform approach throughout the entire Land. This form consists of eight pages and is meant for inspectors to use whenever they execute a 'Seveso-inspection'. They can complete it during the inspection and thus use it to later report the findings. All inspectors are supposed to use this. It is expected that inspections will last five or six days: two days preparation, one day visit and two days reporting. External experts will not standard be used for inspections. Only in the case of very complicated questions third parties might be contracted.

c) Bavaria

The team responsible for the assessment of the safety report will also execute the inspection. As was the problem with the descriptions of the inspection practice in North-Rhine Westphalia and Baden-Württemberg, the Bavarian inspectors also only planned to start the inspections in autumn 2001. Therefore, at the time of the interviews and the questionnaire, no experience with Seveso II inspections was available. All inspections were still based on the first directive.

Intentions are to inspect the Seveso II upper tier establishments with two inspectors: one representing the factory inspectorate and one representing the environmental authority. The Seveso II inspections will focus on other legislation as well; it is unlikely that there will be pure 'Seveso II inspections'. The different regional governments all set up inspection-plans for the inspectors. Besides, there also is a general Bavarian instruction on how to deal with the Seveso II legislation that inspectors can use when conducting inspections. It is called a 'Guidance on the Execution of the Hazardous Incident Ordinance' ('Arbeitshilfen zum Vollzug der Störfall-Verordnung'). It, in 45 pages, touches upon topics such as safety management systems, domino effects and safety reports. For each topic it describes the companies' obligations and it provides for a standard inspection form for the inspectors. The main aim of the guidance is to make sure that the inspections are uniform throughout Bavaria.

Inspectors expect that Seveso II inspections will last one day. Future inspections of upper tier establishments will take place once a year, as the European directive prescribes. The respondents were not yet sure whether to contract third parties for the inspections. They only think about asking external advice in case of difficult questions.

When comparing the inspection practices in Germany it is obvious that in all three Länder the Seveso II inspections did not start yet. The inspections were still focused on Seveso I and did not yet include the new Seveso II requirements. In all cases, the planning was to start the new inspections in autumn 2001. In all three Länder small teams of inspectors execute the inspections. In Baden-Württemberg the inspections are in some cases even carried out by one inspector alone. Inspectors are likely to spend only one or two days at the site and German upper tier establishments can expect to be visited for their Seveso II compliance once a year in the future. There is a common trend that Länder, even though they do have this opportunity, will not regularly delegate the inspections to independent third parties. The use of external advice is only expected in case of possible specific problems.

Table 3.8: Inspections in Germany (answers in percentages; number of respondents in brackets)²⁸

	NRW	BW	BAV	
Inspections are outsourced.	no (perhaps only for difficult topics)	no (perhaps only for difficult topics)	no (perhaps only for difficult topics)	
Number of inspectors per inspection.	2-4	1-2	2	
Focus of the inspections?	also on other legislation	mainly on Seveso II	also on other legislation	
Inspectors use an inspection-plan:	not known yet	differs per region		(9)
• yes, followed strictly			11	
• yes, but possible to deviate			67	
• no			22	
Inspectors are free to decide what to inspect:	not known yet	not known yet		(8)
• inspectors use a strict format			13	
• inspectors use a loose format			50	
• inspectors are free to decide			37	
Usage of an inspection tool	tool available, not known to what extent inspectors are going to use it	yes, common format to document inspections	44	(9)
The average length of a company-visit is...	not known yet (Cologne 1-3 days)			(7)
• < 1 day		0	14	
• 1 day		100	86	
• > 1 day		0	0	
Total number of man-days per inspection.	not known yet	1-2	2	
Total number of man-days on-site (assessment + inspection combined).	not known yet	2-5	4	
Total time spend by inspectors per upper tier establishment (in man-days).	not known yet	not known yet	15-40	
Expected number of annual Seveso II inspections.	not known yet	1 (at least)	1-2	
There are differences between the enforcement agencies during the inspections.	not known yet	not applicable (only 1 agency)	not known yet	

3.3.4 *Sanctioning practice*

In Germany, the sanctioning possibilities are the same in all Länder and no differences are expected in the type of instruments used. None of the Länder mentioned to use a deviating system of imposing sanctions. Article 21 of the 'Hazardous Incident Ordinance' – the ordinance that transposed the Seveso II directive – mentions a lengthy catalogue of infringement possibilities. The following sanctioning tools are available:

- Compliance note;
- Administrative order (with a deadline for compliance);
- Formal order to close down the operation of an installation;
- Order for immediate enforcement;
- Threat of compulsory measures.

Inspectors are also empowered to impose administrative fines in cases of offences, up to 51.000 euro. According to Jones, the fines are much lower in practice, however. This maximum amount is hardly ever reached in practice. (Jones, 1997: 175) The more serious infringements can be dealt with on a higher level in criminal court. Here operators even have a chance of being sent to prison.

Since in Germany the inspections were not yet based on the Seveso II requirements there are no examples of sanctions applied for infringement related to the new directive. The nine Bavarian inspectors who completed the questionnaire did answer some questions related to the sanctioning practice. Since their inspections were still based on Seveso I, their answers related to this sanctioning practice therefore also still relate to the situation under the first Seveso directive.

Bavarian inspectors claim that they normally immediately impose a sanction when they spot an infringement. When asked about their expectations about the future sanctioning practice related to the Seveso II directive, inspectors consider themselves to be less strict. For the topic of Seveso II they do not expect to impose sanctions often. Most respondents claim that the sanctioning practice will depend on the severity of the infringement, the costs to undo an infringement or the financial situation of a company. If an inspector finds an infringement that is not very serious, there will be room for negotiations and the offender will receive a warning first. A more serious infringement will be sanctioned sooner. A dangerous situation with possible immediate consequences could lead to the closing of a plant. In none of the three Länder Seveso II-related sanctions were imposed up until summer 2001.

Table 3.9: Sanctioning practice in Germany (answers in percentages; number of respondents in brackets)

	Bavarian inspectors	
Frequency of future sanctions:		(7)
• never	0	
• 0-25%	86	
• 25-50%	14	
• 50-75%	0	
• 75-100%	0	
Frequency of warning before imposing a sanction:		(8)
• never	0	
• 0-25%	50	
• 25-50%	25	
• 50-75%	0	
• 75-100%	25	
Expected types of instruments used most often.	not known yet	
Percentage of inspectors who consider the following circumstances:		
• company size	14	(7)
• severity of the infringement	100	(7)
• costs to undo the infringement	86	(7)
• financial situation	71	(7)
Inspectors consider...		
• company-specific circumstances	100	(9)
• compliance costs	11	(9)
The decision to impose sanctions is made by...		(7)
• me (inspector)	0	
• enforcement agency	0	
• jointly (inspector + agency)	57	
• manual	43	

3.3.5 Relationship between inspectors and companies²⁹

Bavarian inspectors generally speaking consider their relationship with companies to be good. Companies co-operate well with the inspectors; inspections are based on co-operation. Inspectors differ of opinion on the statement that inspections take place in a formal atmosphere. Some respondents mentioned that it is difficult to answer this question in general since this differs per company. Whether the approach of inspectors is formal or informal depends on the inspectors and companies involved. Some inspectors visit the same companies for over ten years. Then, of course, there is a chance for a certain informal relationship to bloom.

The giving of advice is an important aspect of the job for the Bavarian inspectors. All respondents indicate that giving advice was rather common when enforcing the first Seveso directive. As well, discussions play a major role in the relationship between inspectors and regulated. A high percentage of the inspectors are of the impression that it is important to have a good relationship with the regulated in order to be able to enforce the legislation in

an accurate manner. The main reason why inspectors indicate that it is important to have a good relationship with the regulated is that inspectors are very dependent on the companies for receiving information.

Table 3.10: Relationship between inspectors and companies in Germany (answers in percentages; number of respondents in brackets)

	Bavarian inspectors	
Relationship in general		
• The relationship is good.	100	(9)
• The inspections are based on co-operation.	88	(8)
• There is a formal atmosphere.	50	(8)
Room for discussion / advice		
• Discussion is important.	100	(9)
• There often is discussion on the content of legislation.	100	(7)
• Inspectors often give advice.	100	(9)
Dependency inspectors on companies		
• A good relationship with companies is necessary for good enforcement.	78	(9)
• I am dependent on companies for obtaining information.	100	(9)

3.4 Great Britain³⁰

3.4.1 Introduction

In Great Britain, two enforcement agencies are responsible for the enforcement of the Seveso II directive. One of these agencies, the 'Health and Safety Executive' (HSE), operates throughout Great Britain. The other agency is actually divided into two agencies, each responsible in a distinct region. In Scotland, the HSE co-operates with the 'Scottish Environment Protection Agency' (SEPA) and in England and Wales, the HSE co-operates with the 'Environment Agency' (EA).³¹ In this chapter on the Seveso II enforcement practice, attention will only be paid to England and Wales, thus the co-operation between the HSE and the EA. The co-operation of the HSE with SEPA in Scotland will be left out of the description. The HSE and EA together represent the policy areas 'environment' and 'occupational safety and health'.

Both the HSE and the EA have a special part of their organisation that is responsible for the enforcement of the Seveso II directive. Within the HSE, the 'Land Division' of the 'Hazardous Installations Directorate' is the responsible department. This division consists of about 120 persons and approximately 80 of these 120 inspectors only visit major hazard sites in the chemical industry. All Seveso II establishments fall in this category. Since not all major hazard establishments fall under the directive, these 80 inspectors are responsible for more than just Seveso establishments. All inspectors that check Seveso II are responsible for other occupational safety and health legislation as well. It is estimated that the larger part of these 80 inspectors spends between 50-75% of their time on Seveso II. Besides, there are a few specialists who spend about 90% of their time on this topic.

Within the Environment Agency, there are approximately 1.000 inspectors of who about

120 are special 'Process Industries Regulators'. Of these 120 regulators approximately 100 enforce Seveso II. These 100 environmental inspectors have other duties as well. Their main duty besides Seveso II is the inspection of integrated pollution control legislation and therefore they only spend approximately 25% of their time on Seveso-related issues. In total, the EA calculated that the amount of work on Seveso II legislation per year of these 100 inspectors is about 15 to 25 man-years.

Great Britain works with a joined competent authority for the Seveso II enforcement: the competent authority is shared by the HSE, EA and SEPA. This shared competent authority already indicates the fact that the agencies are expected to co-operate during the enforcement of this legislation. The co-operation within the competent authority can be labelled as follows: *'The model of the Competent Authorities developed can best be described as parallel working, co-ordinated between the organisations, rather than a single organisation.'* (Newman, 1999: 9) There are joint meetings to discuss all parts of the legislation. Because the parties are so different in organisation, culture and background, they put much effort in making the co-operation work. There are 'Separate Memoranda of Understanding' defining working arrangements in order to make sure that all functions are executed and all aspects are being treated. Besides, there is a 'Steering Group' that checks whether all working arrangements are actually followed up. A 'Single Implementation Project' introduced working arrangements in 16 areas such as inspections, assessment and domino effects. These projects need to ensure that HSE, EA and SEPA inspectors all work together in a consistent manner. Both parties of the competent authority have responsibilities for the entire enforcement, but the HSE emphasises occupational safety and health aspects and the EA and SEPA emphasise environmental aspects.

For each upper tier establishment, the competent authority set up a team of inspectors. Each team consists of a number of specialists, such as process safety, control system and fire explosion specialists, civil or chemical engineers. The sort of specialists used in a team depends on the type of company and the type of operations. One of the inspectors will be appointed as the site manager and holds the final responsibility over the assessment and inspections within that company. Whether the site manager is a HSE or EA inspector depends on whether the risks at that site are predominantly risks to the environment or to the workers. Usually a HSE inspector will be the site manager. In total, each team will consist of two to six inspectors, depending on the size of the company. An average team assessing a small site will probably consist of two or three members and teams for larger sites can be as big as five or six persons. Whenever possible, team members are chosen that already know a site. A team will always consist of at least one member from both organisations. The team is responsible for both the assessment of the safety report and the inspection of that establishment. Each inspector participates in more than one team and is thus responsible for more than one site. The number of establishments one inspector is responsible for differs per person. The questionnaire respondents on average were responsible for four upper tier establishments and six lower tier establishments. Since each site has its own team, depending on the geographical location and the type of installations present, an inspector is working in different teams.

Table 3.11: *General organisation in Great Britain (number of respondents in brackets)*

	HSE	EA	total ¹²
Number of inspectors.	80	100	180
Inspectors work part-time or full-time on Seveso II (in percentages):			(13)
• 0-25%	15		
• 25-50%	54		
• 50-75%	23		
• 75-100%	8		
Are the enforcement agencies expected to co-operate during the assessment and inspection?	yes (teams of 2 to 6 members)		
Actual contact between inspectors of different agencies (in percentages):			(12)
• often	8		
• regular	92		
• sometimes	0		
• never	0		
Inspectors are responsible for... (in percentages)			(13)
• assessment	0		
• inspection	0		
• both assessment and inspection	100		
On average, for how many establishments are inspectors responsible?			(13)
• upper tier	4		
• lower tier	6		
• total	10		

Companies with multiple sites throughout the UK are co-ordinated via the 'lead unit system': *'co-ordinated interventions at multi-site companies, so achieving gains in efficiency and effectiveness, particularly for the application of COMAH'*.³³ This system provides a consistent approach throughout the country. Since both the HSE and the EA work in regions, a uniform approach must be guaranteed by using one lead unit co-ordinator. This person will manage the approach within all establishments of a particular company. Transco, for example, has 51 upper tier and 110 lower tier sites in Great Britain that are all very similar. They all have the same safety management system and therefore the same type of intervention seems logical. For such companies there will be a central inspection plan called the lead unit system.

3.4.2 *Assessment of the safety report*

The UK was the first Member State to actually receive safety reports. The first reports already came in in February 2000. As stated above, a team of inspectors is responsible for the assessment of the safety report. The site manager will take the lead in this assessment process. This person is responsible for managing the entire process and is also the contact person for the operator. The size of the team depends on the size of the company, but most teams consist of four to six persons. It is common practice in Great Britain for these teams to visit the upper tier establishments during the process of writing the safety report.

As a first step after receiving a safety report, the site manager studies the content to see

whether all information is present. Many reports are inadequate the first time; a large percentage of the companies had to rewrite their report. In this case the site manager visits the company to explain what is missing and what should be done to complete the report. Especially reports written by external consultants often were not up to the standard according to inspectors. The site manager decides, based on the content of the report, what expertise is necessary and he will decide on the form and size of the team. If the report is complete, it will be sent to the rest of the team for the actual assessment. There is a 12-month period in which the assessment must be completed. The assessment of the first reports showed, however, that in many cases this is not long enough. Many teams had problems completing the entire assessment within this period. The manager decides what member assesses what part of the report. Each inspector will assess that specific part that relates to his or her expertise. Usually the site manager is the only inspector who reads the entire report.

Usually there will be a pre-assessment team meeting in which the team will discuss the approach and the aspects that need to be assessed. After that, all inspectors will each do their work separately. It is very likely that the inspectors will do this in a consistent manner, since they all use the assessment tool that was set up for this purpose: 'COMAH Safety Report Assessment Manual' (SRAM). This is a huge document with more than 600 pages published by the competent authority and is meant to help all inspectors in their assessment of the safety reports. For every possible aspect that should be written down in a safety report, a checklist is given plus an explanation under each point of the checklist. The criteria are meant as a framework and not as a tick-list. Besides this general tool, there are two assessment manuals for LPG and Chlorine installations in specific. The environmental inspectors can use a separate guidance document of 86 pages on how to conduct an environmental risk assessment: 'Guidance on the environmental risk assessment aspects of COMAH safety reports'. All inspectors always use the SRAM during the assessment and environmental inspectors use the environmental guideline sometimes. The assessment is mostly a desktop experience. Views are exchanged via e-mail or phone and in the end there is a final assessment meeting. Mostly teams come together twice for one safety report assessment.

Example from the 'Safety Report Assessment Manual'.
Appendix 4: Assessment Recording Forms.

Establishment:

- 2.8 The safety report should give an overview of the establishment, particularly identifying those relevant to major accident hazards.
- 2.9 The safety report should describe the process(es) being carried out within every installation which could give rise to a major accident.
- 2.10 The safety report should describe the area on each installation where a major accident scenario could happen.
- 2.11 The safety report should provide focused information about each installation, in sufficient detail to support the demonstration that major accident hazards will be prevented or the effects mitigated.

Table 3.12: Assessment of the safety report in Great Britain (answers in percentages; number of respondents in brackets)

	Inspectors	Companies
The assessment is outsourced.	0	(13)
Number of visits during the writing of the safety report:		(13)
• 0	0	12
• 1	54	25
• 2-5	31	38
• 5-10	15	25
• > 10	0	0
Number of assessors:		(13)
• 1	0	
• 2-3	0	
• 4-6	92	
• > 6	8	
Usage of a tool to assess the safety report.	100	(13)
Companies rewrite the safety report:		(11)
• never	0	30
• 1 time	91	30
• 2 or 3 times	9	20
• more than 3 times	0	20
• don't know yet	0	0
Percentage of assessors who check...		(13)
• the entire report	23	
• only a part of the report	77	
Number of days per assessment, individual assessors:		(13)
• 1-5 days	8	
• 5-10 days	77	
• > 10 days	15	
Number of man-days per entire assessment.	25-50	
Deadline assessment safety report?	12 months	

The time spend on assessing a safety report varies per company. The competent authority handed out guidance to companies on what to expect of the inspectors during the enforcement of the Seveso II directive.³⁴ This guidance gives an idea of what should be expected in terms of a safety report assessment. It states that the assessment can be divided into a safety and an environmental assessment. The safety assessment is expected to last between 20 and 40 days and the environmental assessment between 5 and 10 days. This would lead to a total number of days spend on an assessment of 25 to 50 days for an entire team.³⁵

3.4.3 Inspections

After the assessment, the safety report is used to set up an inspection programme, or intervention plan, for each upper tier establishment. Especially imprecise parts of the safety report are taken as a point of departure for the inspections. An important aspect for British inspectors during the inspections is that companies *demonstrate* the link between the major accident events and the control measures. The same persons responsible for the assessment are responsible for the inspection; they have to make the inspection plan for the next five years. There are a number of factors that influence the structure and format of an inspection plan: the outcome of the safety report assessment, current issues at an establishment, national initiatives, known causes of accidents, information from previous interventions and the operator's own audit plans (inspectors do not want to inspect those aspects already audited by the company itself). The plan dictates what inspector is doing what type of inspections.

Even though the entire team of four to six inspectors is jointly responsible for the inspection plan, not all inspections will be executed jointly. HSE and EA inspectors will most likely not carry out inspections together. The person responsible for the subject that needs to be inspected will carry out the inspection. For example, aspects that have to do with chemical engineering will preferably be inspected by the same inspector who assessed this topic in the safety report. An inspection of a more complicated general aspect such as a safety management system will be done by more inspectors, but the other more specialised and technical inspections can be done by one person alone. The EA inspector will only be involved in the inspections that concern environmental aspects. In the beginning of the year, HSE and EA inspectors will share their work programmes locally so they know from each other when they inspect what companies for what aspects. The inspections are in all cases announced in order to make sure that the right people are available at the site. Generally speaking, the inspectors will not visit a company for the topic of Seveso II alone; inspectors also check other legislation.

An example of an inspection programme for an upper tier site (charging manual, page 23):

A large chemical works, employing 500 people. There are a range of complex chemical manufacturing processes and associated bulk storage, of both raw materials and finished products, in fixed vessels. Reactions are carried out at elevated temperatures and pressures, and both safety and process parameters are managed by operators using computer-controlled systems and equipment. There are flammable and toxic hazards which have significant potential to cause effects off-site in the event of a major accident, including environmental damage.

Typical Inspection Programme: A five year planned inspection programme, during which the site can expect to have at least one site inspection visit each year. The programme will involve a range of visits on specific targeted topics related to the major hazard potential of the site will comprise a series of inspections to examine standards of safety and control of storage vessels, process plant, and safety management systems. Advice and input from HSE specialist inspectors will feature in appropriate cases. In at least one year, the annual inspection in the programme is likely to be an audit of one or more elements in the safety management systems that will involve substantial preparation, site and reporting time (possibly up to 30 inspector days).

The typical annual planned inspection is likely to involve the following resources:

- safety inspection – 15 days (111 hours)
- environmental inspection – 6 days (44 hours).

The number of days the competent authority thinks to spend on inspections at a site depends on the type of company and the quality of the safety report. Companies and inspectors agree

that an average visit for Seveso II up until now lasted one day.³⁶ When asked for future expectations much higher numbers are given. A large percentage of the companies expect to be visited for Seveso II related affairs between two to five times per year in the future. Most of the inspectors also expect to visit the companies multiple times per year. The guideline for companies that stated the expected time for an assessment also gives examples of what companies should expect of the inspections. For upper tier sites, the number of days of inspection per year can vary between the 5 and 25 man-days.

British Seveso II upper tier establishments notice a difference between the agencies. In general, HSE inspectors tend to pay more visits than EA inspectors do. HSE inspectors are also considered to be more knowledgeable, they tend to focus on minor details more often and they tend to be less flexible in their interpretation compared to EA inspectors.

3.4.4 *Sanctioning practice*

British inspectors have the right to enter all workplaces without prior notice. The inspectors can give advice, talk to employees, take pictures or samples and impose notices. The possibilities to sanction operators for not complying with the Seveso II legislation are based on the 'Health and Safety at Work etc. Act 1974' for both HSE and EA inspectors. Normally environmental inspectors sanction according to the 'Environmental Protection Act', but for the topic of Seveso II an exception was made. Legislation was changed to ensure that EA inspectors can also use the powers under the health and safety legislation. Inspectors can impose the following sanctioning possibilities:

- Informal actions: when an infringement is very small the inspector can tell the company what to do to comply correctly. This advice can be written down.
- Improvement notice: a more serious infringement can lead to an improvement notice. This notice will first be discussed with the operator to see whether differences of agreement can be solved beforehand. The notice explains what has to be done, why and before when. This period of time a company is allowed to repair an infringement is at least 21 days. If the infringement is not ceased within the set time, the inspector can prosecute a company.
- Prohibition notice: imposing a prohibition notice that forbids a certain activity immediately or after a set period of time can sanction a serious infringement.
- Prosecution: decisions when and how to prosecute are laid down in the 'Enforcement Policy Statement' of the HSE. A failure to comply with an improvement or prohibition notice can lead to a fine as high as 32.000 euro or six months in prison before the magistrate's court. The most serious cases will be dealt with in crime court. The fines here can even be as high as one and a half million euro or more.³⁷

Either the assessment of a safety report, inspection of a site or the investigation of an incident or accident can lead to the handing out of one of the notices or even prosecution. It is stated in the manual 'Charging for COMAH activities' that a prohibition notice will never be based on the reading of a safety report alone. The operator will always be warned and the situation will be judged during a company visit.

According to the interviewees, inspectors will normally first discuss the matter with the operator before sanctioning non-compliance. Inspectors all mention that they wish to achieve correct compliance by successful dialogue and that notices are only used when absolutely necessary. Normally it is not necessary to use a notice, as one interviewee mentioned: '*In 90% of*

Table 3.13: Inspections in Great Britain (answers in percentages; number of respondents in brackets)

	Inspectors	Companies
Inspections are outsourced.	0 (13)	
Number of inspectors per inspection:	(13)	
• 1	0	
• 2-3	0	
• 4-6	92	
• > 6	8	
Focus of the inspections?	(13)	(9)
• only on Seveso II	8	11
• also on other legislation	92	89
Inspectors use an inspection-plan:	(13)	
• yes, followed strictly	23	
• yes, but possible to deviate	69	
• no	8	
Inspectors are free to decide what to inspect:	(13)	
• inspectors use a strict format	8	
• inspectors use a loose format	38	
• inspectors are free to decide	54	
Usage of an inspection tool.	not available	
The average length of a company-visit is...	(12)	(9)
• < 1 day	33	33
• 1 day	58	56
• > 1 day	8	11
Total number of man-days per inspection.	15-25	
Total number of man-days on-site (assessment + inspection combined).	20-30	
Total time spend by inspectors per upper tier establishment (in man-days).	35-80	
Expected number of annual Seveso II inspections:	(13)	(10)
• 0	8	10
• 1-2	38	0
• 3-5	31	80
• 5-10	23	10
• > 10	0	0
There are differences between the enforcement agencies during the inspections.		70 (10)

our work it will simply be that we tell them to change and they change. Before imposing a sanction, inspectors take notice of the infringement and the costs to undo this infringement. British inspectors think that it is not likely that they will sanction often for infringements related to the Seveso II directive in the future. The interviewees mentioned that sanctioning for wrong or incomplete safety reports did not occur up until spring 2001 and inspectors do not expect this to happen very often in the future. Up until spring 2001, in one of the ten companies that completed the questionnaire, an infringement related to the Seveso II directive was found. This upper tier establishment was given a verbal warning and did not receive an official sanction.

There are examples of sanctions related to Seveso II for accidents, however. In the first year that companies had to comply with this legislation, April 1999 to March 2000, the competent authority reported ten major accidents.³⁸ Nine of these accidents occurred in upper tier Seveso establishments and one in a lower tier establishment. In six of the ten companies, the competent authorities imposed sanctions. In these six companies, the inspectors imposed nine improvement notices, three prohibition notices, prosecuted two companies and shut down one company for a week.

3.4.5 *Relationship between inspectors and companies*

The opinion on the relationship between inspectors and companies differs slightly between both parties. Companies are more positive about this relationship than inspectors are. Some of the inspectors indicated that the relationship changed and that it used to be better a couple of years ago. There seemed to be a culture of dialogue with industry that changed the last years. Even though the company respondents are more positive, they also indicate that the relationship changed. In general, the inspections are considered to be based on co-operation. Again companies are slightly more positive about this than inspectors are. According to the companies, especially the relationship with HSE inspectors is formal. With EA inspectors companies often have a more informal relationship. The respondents claim that the relationship became more formal the last years.

Both inspectors and companies agree that discussions play an important role in their relationship. There seem to be quite some discussions between both parties on the content of the Seveso II legislation. Inspectors claim that they give much advice to companies on how to comply with the legislation. Companies are less positive about this, however. According to some interviewees, the giving of advice changed in recent years. They claim that inspectors were much more willing to give advice a couple of years ago.

A small majority of the inspectors is of the opinion that it is important to have a good relationship with companies. Without a good relationship not all necessary information can be obtained. Inspectors are of the impression that they are dependent on companies in order to receive all information necessary for good enforcement of the Seveso II directive.

Table 3.14: Sanctioning practice in Great Britain (answers in percentages; number of respondents in brackets)

	Inspectors		Companies	
Frequency of future sanctions:		(12)		
• never	0			
• 0-25%	92			
• 25-50%	8			
• 50-75%	0			
• 75-100%	0			
Frequency of warning before imposing a sanction:		(12)		
• never	0			
• 0-25%	42			
• 25-50%	25			
• 50-75%	33			
• 75-100%	0			
Expected types of instruments used most often.			- improvement notice	
			- prohibition notice	
Percentage of inspectors who consider the following circumstances:				
• company size	54	(13)		
• severity of the infringement	100	(13)		
• costs to undo the infringement	85	(13)		
• financial situation	31	(13)		
Inspectors consider...				
• company-specific circumstances	58	(12)	89	(9)
• compliance costs	50	(12)	11	(9)
The decision to impose sanctions is made by...		(13)		
• me (inspector)	31			
• enforcement agency	0			
• jointly (inspector + agency)	23			
• manual	46			
Percentage of respondents where a violation was found.			10	(10)
Percentage of detected respondents that received a warning first.			100	(1)
Percentage of respondents that received a sanction...				
• of all respondents			0	
• of the detected companies			0	

Table 3.15: *Relationship between inspectors and companies in Great Britain (answers in percentages; number of respondents in brackets)*

	Inspectors		Companies	
Relationship in general				
• The relationship is good.	69	(13)	89	(9)
• The inspections are based on co-operation.	77	(13)	89	(9)
• There is a formal atmosphere.	69	(13)	100	(9)
Room for discussion / advice				
• Discussion is important.	92	(13)	89	(9)
• There often is discussion on the content of legislation.	77	(13)	78	(9)
• Inspectors often give advice.	92	(13)	67	(9)
Dependency inspectors on companies				
• A good relationship with companies is necessary for good enforcement.	62	(13)		
• I am dependent on companies for obtaining information.	69	(13)		

3.5 Spain³⁹

3.5.1 Introduction

In Spain all 17 Autonomous Communities have their own enforcement structure. Three Autonomous Communities were chosen to describe the Spanish enforcement of the Seveso II directive: Catalonia, Valencia and Madrid.

In Catalonia two regional ministries⁴⁰ are responsible for the enforcement of the Seveso II directive: the ‘Ministry of Industry, Trade and Tourism’ (‘Departament d’Indústria, Comerç i Turisme’) and the ‘Ministry of Interior Affairs’ (‘Departament d’Interior’). Of the first ministry the ‘Directorate General of Industry’ is the main actor involved and of the interior affairs ministry the ‘Directorate General of Emergencies and Civil Security’ is the responsible department. Valencia appointed three regional ministries, namely the ‘Ministry of Justice and Public Administration’ (‘Consejería de Justicia y Administraciones Públicas’), the ‘Ministry of Industry and Trade’ (‘Consejería de Industria y Comercio’) and the ‘Ministry of the Environment’ (‘Consejería de Medio Ambiente’). Of the justice ministry, especially the ‘DG of Interior Affairs’ is involved, of the industry ministry the ‘DG of Industry and Energy’ and of the environmental ministry the ‘DG of Education and Environmental Quality’ and the ‘DG of Planning and Environmental Management’. Finally, in Madrid two regional ministries are responsible for the Seveso II enforcement: the ‘Ministry of Economics and Employment’ (‘Consejería de Economía y Empleo’), via its ‘DG of Industry, Energy and Mines’ and the ‘Ministry of Justice, Public Function and Local Administration’ (‘Consejería de Justicia, Función Pública y Administración Local’), via its ‘DG of Civil Protection’. Thus in all three Autonomous Communities the departments responsible for ‘industry’ and ‘civil protection’ are involved in the Seveso II enforcement and in Valencia ‘environment’ is included as well.

Autonomous Communities have contact with each other and the national government on the topic of Seveso II in a nationally organised meeting of the ‘National Commission on Civil Protection’ (‘Comisión Nacional de Protección Civil’). All actors have their own delegation

in this commission, which discusses all aspects of civil protection, including Seveso II. It has the task to spread information, participate in co-ordination and, most importantly, to supervise the making of external emergency plans.

Even though there potentially are 17 different enforcement structures in Spain, there are relatively many aspects that are organised the same in all Autonomous Communities; the administrative implementation is for the greater part alike. In all three Autonomous Communities, the regional ministries responsible for the enforcement jointly form the competent authority. Thus in Catalonia the industry and interior affairs ministries together form the competent authority, in Valencia the public administration, industry and environmental ministries and in Madrid the economical and industrial ministries. In two of the three Autonomous Communities there is a special committee to make sure that these regional ministries communicate on the Seveso II enforcement. In Valencia this is the 'Commission of Risk Supervision' ('Comisión de Seguimiento del Riesgo') that consists of two representatives of each of the three ministries involved. Madrid set up its 'Regional Commission of Major Accidents' in which all actors involved in Seveso II enforcement take place.

The regional ministries that jointly form the competent authority are the responsible actors for the assessment of the safety report and the inspections. However, these competent authorities do not carry out all enforcement activities themselves. Inspections of Seveso II establishments and assessment of their safety reports are usually delegated to independent third parties.

Assessment of the safety report and inspections are often delegated to private parties in Spain.

Catalonia and Madrid delegate both the assessment and the inspections and Valencia just delegates the inspections. Most private inspection and assessment agencies are working throughout Spain or even are international companies. Therefore, the inspectors who inspect Seveso II legislation are not divided per Autonomous Community but per inspection agency. This makes potential differences between regions less likely. Differences are more likely to exist between inspection agencies. Since the assessment and inspections are delegated – and the assessment and inspection agencies work for more than one Autonomous Community – it is hard to estimate a total number of inspectors and assessors per Community. The number of people working on Seveso II in the competent authorities is known. In Catalonia the two regional ministries appointed seven people with Seveso II responsibilities, in Valencia the three regional ministries appointed six people and in Madrid the two regional ministries appointed four people. In all cases, these persons are only part-time working on the Seveso II legislation; they have other responsibilities as well. It is estimated that less than 25% of their time is devoted to this specific topic.

In the three Autonomous Communities – probably all over Spain – the assessment of the safety report and the inspections of Seveso companies are separated and executed by different actors. Thus there are private inspection agencies that only inspect the sites and consultant agencies that only assess the safety reports.⁴³ These different actors are not obliged to co-

In Spain the assessment and inspection are executed by different agencies.

operate on the Seveso II enforcement. Thus in none of the cases there is a special team per Seveso II establishment for assessment and inspections. Even though the inspectors and assessors are not expected to co-operate, there is some contact between both parties. Inspectors

will try, when available, to use the assessed safety report for their inspection. On average, inspectors are responsible for seven upper tier establishments and seven lower tier establishments.

Table 3.16: *General organisation per Autonomous Community in Spain*⁴¹

	Competent authority	Inspectors	Assessors
Number of people involved.	4 to 7	not known	CAT: 2 to 6 VAL: 1 MAD: ?
People work part-time or full-time on Seveso II?	part-time	part-time	part-time
Are the enforcement agencies expected to co-operate during the assessment and inspection?	no		
Actual contact between people from different agencies?	regularly		
People are responsible for... (in percentages)			
• assessment	0 ⁴²	0	100
• inspection	0	100	0
• both assessment and inspection	0	0	0
On average, for how many establishments are people responsible?			
• upper tier	0	7	?
• lower tier	0	7	0
• total	0	14	?

3.5.2 *Assessment of the safety report*⁴⁴

a) Catalonia

The assessment of the safety reports is delegated to three external institutions appointed by the Catalan government: TNO⁴⁵ (consultant agency) in the Netherlands, INERIS⁴⁶ (consultant agency) in France and IQS⁴⁷ (chemical university) in Spain. The three agencies assess the safety reports and prepare recommendations for companies on further improvements. All three have a different style of writing their assessment and recommendation. The Catalan industry ministry did not set up any guidance for the three institutions on how to do the assessment. Companies have to hire one of the three mentioned institutions themselves, which they can choose freely, and have to pay for these assessments. Of the three agencies mentioned, IQS and TNO executed most of the Seveso I safety report assessments. During the period of conducting this research in Catalonia (summer 2001), these two agencies did not yet receive any Seveso II safety reports to assess. Within IQS, two professors and two to four engineers work, in teams, on the assessments. One assessment lasts approximately two to four weeks. At TNO, two people work on assessing the Catalan safety reports. In total, these two people spend about 10 to 20% of their time on these assessments. They carry out each assessment together and one assessment takes between five to ten days. Both agencies

indicate that the assessment of safety reports mainly is a desk job. However, assessors from both agencies will also visit the site one or two days in order to check the content of the safety report with the actual situation.

After the assessment, the upper tier establishments must send the safety report plus assessment report to the Catalan industry ministry. This ministry checks whether they agree with the assessment and the recommendations made. Under Seveso I there were no problems with the assessments and the ministry does not expect any problems with this procedure for Seveso II reports either. Catalonia received the Seveso I safety reports of all 40 Catalan upper tier companies. The Seveso II reports will probably take a while before they all are handed in and assessed. The first Seveso II reports were ready to be assessed in July 2001.

b) Valencia

Of the three ministries that form the competent authority in Valencia, one in specific is responsible for the assessment of the safety reports: the 'Ministry of Industry and Trade' and especially its 'DG on Industry and Energy'. Within this DG one department is responsible for the assessment, namely the department of 'industrial security'. Here one person is responsible for assessing all 15 safety reports in Valencia. Since none of the safety reports were yet received in the summer of 2001, there is no information available on the assessment practice. The representative from this ministry did not yet dare to estimate the future practice. It is expected that this one assessor will work full-time on all assessments when the safety reports start to come in.

c) Madrid

In Madrid, the 'DG of industry, energy and mines' of the 'Ministry of Economics and Employment' is the responsible actor for the assessment of the safety reports. This DG, however, delegates this obligation to one of the four private agencies that are contracted in Madrid for the inspections (see section 3.5.3 on inspections). Because the regional ministry did not yet develop any legislation on this topic, there is no information on what agencies will be used and how they will execute the assessments. None of the ten upper tier establishments in Madrid finished its safety report in summer 2001 and therefore the assessment did not start yet.

When comparing the three Spanish Autonomous Communities in their assessment structures, it can be noticed that especially Catalonia leads the way. This Community already established an assessment practice under the first Seveso directive and maintained this practice under the second directive. Therefore this was the only Community of the three studied in this research – according to Catalan representatives the only Community in whole Spain – to be ready to assess the Seveso II safety reports in summer 2001.

Especially Catalonia leads the way in the establishment of the assessment structure. The agencies to carry out the assessment are already appointed and the assessments are ready to start.

Table 3.17: Assessment of the safety report in Spain⁴⁸

	CAT	VAL	MAD	Companies
The assessment is outsourced.	yes	no	yes	
Number of visits during the writing of the report:	IQS: 2 days TNO: 0,5-1 day INERIS: ?	not known yet	not known yet	(7)
• 0				29
• 1				29
• 2-5				42
• 5-10				0
• > 10				0
Number of assessors.	IQS: 4-6 TNO: 2 INERIS: ?	1	not known yet	
Usage of a tool to assess the safety report.	not available	not available	not available	
Companies rewrite the safety report.	not known yet	not known yet	not known yet	(7)
• never				0
• 1 time				0
• 2 or 3 times				57
• more than 3 times				14
• don't know yet				29
Percentage of assessors who check...	not known yet		not known yet	
• the entire report		100		
• only a part of the report		0		
Number of days per assessment, individual assessors.	not known yet	not known yet	not known yet	
Number of man-days per entire assessment.	IQS: 10-20 TNO: 5-10 INERIS: ?	not known yet	not known yet	
Deadline assessment safety report?	6 months	not known yet	not known yet	

3.5.3 Inspections

In all three Autonomous Communities, as throughout Spain, the inspection of Seveso II establishments is delegated to private inspection agencies: 'Accredited Control Organs' ('Organismo de Control Autorizado', OCA). These OCA's are registered and accredited by the 'National Entity of Accreditation' because not just everybody can be hired to do inspections. To that end OCA's must prove to be capable of dealing with the topic that needs to be checked. There are a number of OCA's throughout Spain and each Autonomous Community decides with which ones they will work. The inspection practices of the three Autonomous Communities can be described together in one section since they appointed many of the same OCA's. The Communities in this research together contracted five OCA's for the inspections:

ATISAE, Cualicontrol, ECA, ICICT and SGS.

ATISAE is an OCA with multiple offices in Spain as well as Argentina, Brazil and Chili. ATISAE is, for 25%, part of a larger monitoring organisation in Germany: the 'Technical Monitoring Association' ('Technische Überwachungs Verein', TÜV). In total, ATISAE has 860 inspectors in Spain. ATISAE is contracted for Seveso II inspections in Valencia and Madrid.

On Cualicontrol no information is available. They are registered to execute inspections in Valencia and Madrid.⁴⁹

ECA is the 'Collaborating Organisation of the Administration' ('Entidad Colaboradora de la Administración'). ECA is a large inspection organisation with many local offices in all Spanish Autonomous Communities. All three Communities in this research contracted ECA for Seveso II inspections. In total, more than 500 inspectors work for ECA throughout Spain.

ICICT is originally a Catalan agency: 'Catalan Institute of Inspection and Control' ('Institut Català d'Inspecció i Control'). However, it also executes inspections within other Autonomous Communities. Besides Catalonia, Valencia uses this agency as well. ICICT, as ATISAE, is also related to the German TÜV.

SGS is the 'General Surveillance Society' ('Société Générale de Surveillance') located in Switzerland and with regional offices in Spain. They can perform Seveso II inspections in Valencia and Madrid.

Respondents in all three Autonomous Communities indicated that the Seveso II inspections would start in autumn 2001. During the period of conducting this research in Spain (spring 2001) there therefore was not yet any actual experience with Seveso II inspections. The inspections, at that moment, were still based on the requirements of the first directive. The interviewees, as well as the questionnaire respondents, indicated that there were frequent inspections under Seveso I. Only one of the seven company respondents was never inspected under the first directive.

Companies themselves have to contract one of the inspection agencies accredited to execute inspections in their Autonomous Community. According to the interviewees and the questionnaire respondents, there are no, and will not be, large differences between the inspection agencies in how they execute the Seveso II inspections. Since the inspectors usually are safety experts responsible for safety legislation with a focus on external safety in general, none of the inspectors is full-time responsible for the enforcement of Seveso II. How many inspectors execute the inspection differs per company. One inspector alone can inspect smaller companies and larger, more complicated, companies require a team of two to three inspectors. The extent to which inspectors check other legislation during the visits for Seveso differs between the agencies. ICICT inspectors also check other legislation, whereas the other agencies as a rule perform special 'Seveso inspections'. For an adequate enforcement of this legislation, all inspectors use the safety report as a basis for the inspections. Since the Seveso II safety reports are not yet completed and assessed, the inspectors indicate to use the old Seveso I reports for the inspections until the new assessments are finished.

There is a difference between the inspection agencies whether they use an inspection-plan or not. ECA and ICICT inspectors indicate to work strictly according to such a plan, whereas SGS and ATISAE inspectors do not use such a plan. Most of the inspectors claim to use a format from which they can deviate if necessary. Only one of the inspection agencies, ECA, set up a special instrument for Seveso II inspections.⁵⁰

The questionnaire respondents (inspectors) indicate that an average inspection lasts a part of a day and most of the companies indicate that it lasts an entire day.⁵¹ With an average team

of one to three inspectors, a Seveso II inspection will last one to five man-days in total. An interviewee calculated that the time spend by an inspector is about five days per inspection. Of these five days, approximately half a day to a day is spend at the site itself. The rest of the days is needed to study documents, such as the safety report, at the office before visiting the site. Both inspectors and companies expect a future annual inspection frequency of one to two times per upper tier establishment.

3.5.4 *Sanctioning practice*

Possibilities for sanctioning companies that do not comply with industrial legislation, under which Spain places the Seveso II directive, are based on the national 'Law of Industry' (21/1992). Title V 'Infractions and Sanctions' in this law prescribes different forms of sanctions that can be used whenever an infringement is detected. These forms are dependent on the situation and the seriousness of the infringement. The authorities competent for the enforcement, the Autonomous Communities, are the ones responsible for sanctioning.⁵³ The following options are available:

- Oral or written advice;
- Fine;
- Prosecution;
- Close down a company.

The Spanish sanctioning possibilities are thus nationally organised and therefore do not differ between the Autonomous Communities. For the Seveso II directive it is, up until now, not common to use sanctions. The assessment of the safety reports and the inspections just recently started so there are not yet any examples of sanctions related to Seveso II. In none of the seven upper tier establishments that completed the questionnaire an infringement related to the first directive was found.

Only a few inspectors completed the part of the questionnaire related to sanctioning; some respondents indicated that the enforcement of the Seveso II legislation only started recently and therefore these questions were hard to answer. Inspectors do seem to be willing to warn companies before imposing a sanction. Generally, Spanish inspectors allow companies some time to cease an infringement before formal sanctions are applied. Sanctions are seen as a last resort when other options such as convincing and warning companies did not help. Therefore it is not surprising that 'advice' is mentioned as the instrument used most often.

When imposing a sanction, the severity of an infringement is the only aspect taken into consideration. In Spain it does not seem to be very obvious to consider aspects such as company size, costs to undo the infringement and the financial situation of a company. The decision whether or not to impose a sanction in the end lies with the Autonomous Community.

Table 3.18: Inspections in Spain (answers in percentages; number of respondents in brackets)

	Inspectors	Companies
Inspections are outsourced.	100	(9)
Number of inspectors per inspection:		(8)
• 1	50	
• 2-3	50	
• 4-6	0	
• > 6	0	
Focus of the inspections?		(8)
• only on Seveso II	75	50
• also on other legislation	25	50
Inspectors use an inspection-plan:		(8)
• yes, followed strictly	37	
• yes, but possible to deviate	0	
• no	63	
Inspectors are free to decide what to inspect:		(8)
• inspectors use a strict format	25	
• inspectors use a loose format	62	
• inspectors are free to decide	13	
Usage of an inspection tool.	ECA: always Other agencies: no tool	
The average length of a company-visit is...		(8)
• < 1 day	100	0
• 1 day	0	80
• > 1 day	0	20
Total number of man-days per inspection.	1-5	
Total number of man-days on-site (assessment + inspection combined).	2-8	
Total time spend by inspectors per upper tier establishment (in man-days).	10-25 ⁵²	
Expected number of annual Seveso II inspections:		(9)
• 0	0	0
• 1-2	100	100
• 3-5	0	0
• 5-10	0	0
• > 10	0	0
There are differences between the enforcement agencies during the inspections.		not applicable: companies are only inspected by one agency

Table 3.19: Sanctioning practice in Spain (answers in percentages; number of respondents in brackets)

	Inspectors		Companies	
Frequency of future sanctions:		(4)		
• never	25			
• 0-25%	50			
• 25-50%	0			
• 50-75%	25			
• 75-100%	0			
Frequency of warning before imposing a sanction:		(6)		
• never	0			
• 0-25%	0			
• 25-50%	0			
• 50-75%	17			
• 75-100%	83			
Expected types of instruments used most often.	advice			
Percentage of inspectors who consider the following circumstances:				
• company size	17	(6)		
• severity of the infringement	100	(6)		
• costs to undo the infringement	33	(6)		
• financial situation	17	(6)		
Inspectors consider...				
• company-specific circumstances	100	(9)	100	(6)
• compliance costs	22	(9)	67	(6)
The decision to impose sanctions is made by...		(6)		
• me (inspector)	0			
• enforcement agency	50			
• jointly (inspector + agency)	33			
• manual	17			
Percentage of respondents where a violation was found.			0	(7)
Percentage of detected respondents that received a warning first.			0	
Percentage of respondents that received a sanction...				
• of all respondents			0	
• of the detected companies			0	

3.5.5 Relationship between inspectors and companies⁵⁴

Both inspectors and companies consider their relationship with the other party to be good. Both parties feel that the inspections are based on co-operation and take place in a formal atmosphere. All inspectors are of the impression that it is important to have a good relationship with the companies, especially since they feel that they are dependent on the co-opera-

tion of companies in order to receive all information necessary for good enforcement. Discussions and advice are important elements of the relationship between inspectors and companies in Spain.

Table 3.20: Relationship between inspectors and companies in Spain (answers in percentages; number of respondents in brackets)

	Inspectors		Companies	
Relationship in general				
• The relationship is good.	100	(9)	100	(6)
• The inspections are based on co-operation.	100	(8)	100	(6)
• There is a formal atmosphere.	100	(8)	100	(6)
Room for discussion / advice				
Discussion is important.	67	(9)	83	(6)
• There often is discussion on the content of legislation.	67	(9)	83	(6)
• Inspectors often give advice.	100	(9)	83	(6)
Dependency inspectors on companies				
• A good relationship with companies is necessary for good enforcement.	100	(9)		
• I am dependent on companies for obtaining information.	100	(8)		

3.6 Comparison of the Seveso II enforcement practices

3.6.1 Introduction

As the above descriptions show, there are quite some similarities and differences between the four Member States in how they enforce the Seveso II directive. Two Member States (NL, GB) completely finished their administrative implementation at the time of conducting this research and two did not yet finalise this (D, E). The descriptions of the organisation of the enforcement are therefore more complete and accurate in the Netherlands and Great Britain. The first obvious difference between the Netherlands and Great Britain (centralised countries) on the one hand and Germany and Spain (decentralised countries) on the other hand, is that in the first two countries there is one enforcement practice, whereas in the latter two countries the 16 Länder and 17 Autonomous Communities separately organise their enforcement. Of the four Member States,

In Spain many more agencies are involved in the enforcement of the Seveso II directive than in the three other Member States.

Great Britain is the country with the most consistent approach or practice throughout the country. Especially their lead-unit system that provides a uniform enforcement strategy in companies with multiple sites decreases the chance of different approaches between regions. The Netherlands also shows a rather uniform structure, although some respondents indicate that it is possible to find minor differences between regions. Especially the Rotterdam harbour area is often characterised as having a deviating enforcement structure compared to parts of the country where less industry is located. Germany and Spain show a less uniform approach with their distinct regions. Here deviating enforcement practices exist and many more actors are involved. Especially the Spanish use of a high number of actors forms an exception com-

pared to the other three Member States. The main reason for this is the delegation of responsibilities to third parties. Whereas the competent authorities in the Netherlands, Germany and Great Britain themselves are responsible for the assessment of the safety reports and the inspection of Seveso establishments, Spanish authorities outsource this. They usually delegate the assessment of the safety report to private consultants and they delegate the inspections to private inspection agencies. Therefore, in each Autonomous Community the high number of eight to ten agencies in total can be involved in the Seveso II enforcement. The other Member States show an involvement of only two or three actors.⁵⁵

When looking at the number and sort of policy areas represented by the enforcement agencies, it can be noticed that in three of the four Member States the environment and occupational safety and health are represented. Spain, on the contrary, uses industrial inspection agencies with a focus on external safety.⁵⁶ The Netherlands is the only country to extra include the fire brigade in the Seveso II enforcement.

When considering the Länder and Autonomous Communities as entities in their own right the Netherlands is the country with most full-time inspectors. British inspectors also pay a considerable amount of their time to this topic. German and Spanish inspectors are the least involved in this topic; generally they only spend less than 25% of their time to this topic of major hazards legislation.

Table 3.21: Comparison of the general organisation (number of respondents in brackets)

	NL	D NRW BW BAV			GB	E ⁵⁷
Number of inspectors.	270	300/500	115	290	180	?
Part-time ↔ full-time:	(46)				(13)	(estimate)
• 0-25%	23	90	90	90	15	100
• 25-50%	11	10	10	10	54	0
• 50-75%	19	0	0	0	23	0
• 75-100%	47	0	0	0	8	0
Co-operation between agencies.	yes	differs	no	yes	yes	no
Inspectors are responsible for...	both assessment and inspection	both	both	both	both assessment and inspection	or inspection or assessment
Inspectors are responsible for...					(13)	(7)
• upper tier	9 (44)	?	?	4-5	4	7
• lower tier	5 (39)	?	?	4-5	6	7
• total	14	?	1-4	8-10	10	14

The organisation of the enforcement is very similar in the Netherlands and Great Britain. In both countries all agencies together are jointly responsible for the enforcement and are expected to co-operate. There is quite some attention for the establishment of good co-oper-

ational structures; both countries set up tools to help the inspectors in their co-operation. In order to enforce the Seveso II directive, both countries decided to establish teams of inspectors per upper tier establishment. These teams can vary in size from two to six inspectors, depending on the size of the company. The teams tend to be slightly bigger in Great Britain. In both countries these teams are responsible for both the assessment and the inspections.

Even though the organisation of the enforcement was not fully completed at the time of conducting this research, it seems that the enforcement practice in Germany will very much resemble this practice in the Netherlands and Great Britain. Especially in North-Rhine Westphalia and Bavaria it seems to become common practice for the agencies to co-operate during the enforcement. Here as well, teams of two to four inspectors are set up per establishment and inspectors are responsible for both the assessment of the safety report and the inspections. The situation in Baden-Württemberg seems slightly different since here agencies are not obliged to co-operate.

Of the four Member States, Spain shows the most deviating enforcement practice. Even though all 17 Autonomous Communities organise their own enforcement of the Seveso II directive, the differences between the Communities are to be neglected. In all Communities, the regional ministries are the competent authorities and in all cases they delegate the inspections to independent inspection agencies. Some of the Communities also delegate the assessment of the safety reports. In Spain the aspects of assessment and inspection are completely separated and different actors are responsible for these tasks. These actors are not expected to co-operate and thus there are no teams per establishment responsible for the overall Seveso II enforcement.

Spain shows the most deviating enforcement practice since it delegates the inspection and assessment to private organisations and the inspection and assessment are executed by different agencies.

3.6.2 Assessment of the safety report

The structure to assess safety reports shows the most resemblance between the Netherlands and Great Britain. In both countries inspectors execute their own assessments. It is common to visit the upper tier establishments during the process of writing the safety report. Especially in the Netherlands quite some attention is being paid to the writing process. This is rather logical seen the short deadline for the assessment in the Netherlands. This makes it necessary for Dutch inspectors to receive correct reports immediately. Both countries work with teams of four to six assessors who use a detailed assessment tool. Normally, the team members only assess a part of the safety report; the part related to their own specialisation. Individual inspectors, both in the Netherlands and in Great Britain, usually spend five to ten days per assessment. The total number of man-days per assessment is slightly larger in Great Britain since the teams are usually slightly larger compared to Dutch teams. British inspectors also have more opportunity to spend time on the assessment since the deadline is less strict than in the Netherlands.

The assessment practices in the Netherlands and Great Britain are rather similar: in both countries inspectors pay quite some attention to the assessment and spend many more man-days per assessment than German and Spanish assessors do.

As opposed to the Netherlands and Great Britain, in Germany and Spain it is more common to outsource the assessment of the safety report. There is no common practice in either of the

countries: there are differences between the Länder and the Autonomous Communities. Especially in Spain Communities often delegate the assessment to private agencies. In both countries there seem to be less visits to the companies during the process of writing the safety report and slightly less assessors per report. In neither of the countries there is a common assessment tool available, however, in Baden-Württemberg they are producing one. Both countries did not yet have much experience with the assessment and were not able to present final data, however it is expected that the total number of man-days per assessment is lower than in the Netherlands and Great Britain.

Table 3.22: Comparison of the assessment of the safety report (answers in percentages, number of respondents in brackets)⁵⁸

	NL	D NRW	BW	BAV	GB	E CAT	VAL	MAD		
The assessment is outsourced.	0	100	differs	0	0	100	0	100		
Number of visits during the writing of the report:	(68)				(21)			(7)		
• 0	0	0	0	0	6	29				
• 1	8	90	90	90	40	29				
• 2-5	69	10	10	10	34	42				
• 5-10	21	0	0	0	20	0				
• > 10	2	0	0	0	0	0				
Number of assessors:	(45)				(13)			(7)		
• 1	9	10	5	20	0	100				
• 2-3	40	80	80	80	0	0				
• 4-6	49	10	15	0	92	0				
• > 6	2	0	0	0	8	0				
Usage of a tool to assess the safety report.	95	(42)	?	?	0	100	(13)	0	0	
Companies rewrite the safety report:	(75)	?	?			(21)		(7)		
• never	4			0	15	0				
• 1 time	29			100	61	0				
• 2 or 3 times	41			0	14	57				
• > 3 times	7			0	10	14				
• don't know yet	19			0	0	29				
Assessors who check the entire report.	44	(43)	0	?	20	23	(13)	?	100	?
Number of days per assessor:	(43)	?	?			(13)	?	?	?	
• 1-5	33			40	8					
• 5-10	51			60	77					
• > 10	16			0	15					
Number of days per entire assessment.	20-40	?	?	10-30	25-50	5-20	?	?		
Deadline assessment.	6 months	?	?	no	12 months	6 months	?	?		

3.6.3 Inspections

Spain forms the exception compared to the other three Member States when it concerns the inspection practice. Only in Spain inspections are always outsourced.⁵⁹ In all countries inspectors announce the Seveso II inspections. They all gave the same reason for this. For such a specific topic it is necessary that the right people are available at the site.

Only in Spain, inspections are standard outsourced to private inspection agencies. In other countries governmental inspectors carry out their own inspections.

Table 3.23: Comparison of the inspections (answers in percentages; number of respondents in brackets)⁶⁰

	NL	D NRW BW BAV			GB	E ⁶¹	
Inspections are outsourced.	0	0	0	0	0	100	
Number of inspectors.	2-6	2-4	1-2	2	4-6	1-3	
Percentage of entire Seveso II inspections.	35-69 ⁶² (71)	?	90	11	10 (22)	50-75 ⁶³ (14)	
Inspectors who use an inspection plan.	66 (47)	?	?	78	92 (13)	37	(8)
Inspectors who are free to decide what to inspect.	32 (41)	?	?	37	54 (13)	13	(8)
Usage of inspection tools.	69 (39)	?	100	44	0 (13)	1 agency (ECA)	
Man-days per inspection.	10-20	?	1-2	2	15-25	1-5	
Total time spend by inspectors in man-days (assessment + inspection).	60-80	?	?	15-40	35-80	10-25	
Number of annual inspections.	1-2	?	1	1-2	1-5	1-2	

Most inspectors are involved in the Netherlands where teams of inspectors execute the inspections. At first sight it seems that in Great Britain also large teams are involved. However, most of the visits are executed by individual inspectors; specialists all inspect their own territory. In Great Britain the visits are usually combined with the checking of other legislation as well. In the other countries this differs per inspector or per region. Only in Baden-Württemberg it seems that special Seveso II inspections are common. Especially in the Netherlands and Baden-Württemberg inspectors use an inspection tool during the inspections. In Great Britain there is no inspection tool at all, which might be an explanation for the fact that British inspectors make so much use of an inspection plan.

The Netherlands and Great Britain show more man-days per inspection than Germany and Spain do. The total number of man-days is reached differently in both countries. In the

Netherlands it is common for a team of inspectors to jointly visit a company a couple of days. The British inspectors usually visit a company individually, but visit this company more often than the Dutch teams do. The end result is about the same in both countries. As expected, the total time spend by inspectors, assessment and inspection combined, is higher in the Netherlands and Great Britain than it is in Germany and Spain. The expected number of annual visits in the future for the enforcement of the Seveso II directive is about the same in the four Member States; one to two times per year.

The Netherlands and Great Britain already showed the most man-days per assessment; they also show the most man-days per inspection. Therefore, it is logical that the total time spend by inspectors on enforcing the Seveso II directive is the highest in these two countries.

3.6.4 *Sanctioning practice*

When comparing the sanctioning practices in the four Member States, the first thing that springs to mind is the large resemblance between the countries. Most inspectors indicate that it is still too early to clearly predict the future sanctioning practice. Despite this difficulty, inspectors in all countries mention not to expect to sanction often. Generally, respondents only expect to impose ‘Seveso II sanctions’ in less than 25% of the cases. Inspectors indicate that it is rather normal to first warn companies before imposing formal sanctions. When an infringement is not too serious, inspectors rather have a good dialogue with companies and ask them to improve the situation first. They claim that normally companies will listen to these warnings and cease the infringement. The expected types of instruments to be used differ between the countries. Spanish inspectors indicate to use advice whereas Dutch and British inspectors mentioned more formal options.

In none of the Member States, inspectors expect to sanction often for infringements related to the Seveso II directive.

Generally speaking, inspectors consider the severity of an infringement, costs to undo an infringement and company-specific circumstances before imposing a sanction. Half of the British inspectors also consider the company size and Bavarian inspectors also consider the financial situation of a company. It is not done to consider the company’s general compliance costs.⁶⁴

Of all 45 Seveso II upper tier establishments that completed the questionnaire, in seven companies a violation of the legislation was found. Six of these companies were located in the Netherlands and one in Great Britain.

Most infringements related to the Seveso II directive have, up until now, been found in the Netherlands.

Only one Dutch company received a sanction for the Seveso II legislation. This company received a fine of 2300 euro. In none of the three other countries, companies received sanctions for non-compliance with the Seveso II directive up until now.

Table 3.24: Comparison of the sanctioning practices (answers in percentages; number of respondents in brackets)⁶⁵

	NL		D (Bavaria)		GB		E	
Future sanctioning?		(24)		(7)		(12)		(4)
• never	29		0		0		25	
• 0-25%	37		86		92		50	
• 25-50%	13		14		8		0	
• 50-75%	8		0		0		25	
• 75-100%	13		0		0		0	
Warning first?		(27)		(8)		(12)		(6)
• never	15		0		0		0	
• 0-25%	11		50		42		0	
• 25-50%	7		25		25		0	
• 50-75%	19		0		33		17	
• 75-100%	48		25		0		83	
Types of instruments used most often?	warrant & penalty		not known yet		improvement & prohibition notice		advice	
Inspectors consider...								
• company size	32	(19)	14	(7)	54	(13)	17	(6)
• severity infringement	80	(20)	100	(7)	100	(13)	100	(6)
• costs to undo the infringement	60	(20)	86	(7)	85	(13)	33	(6)
• financial situation	45	(20)	71	(7)	31	(13)	17	(6)
Inspectors consider...								
• company-specific circumstances	90	(70)	100	(9)	73	(21)	100	(15)
• compliance costs	30	(68)	11	(9)	30	(21)	22-67 ⁶⁶	(15)
Decision to impose sanctions:		(25)		(7)		(13)		(6)
• me (inspector)	4		0		31		0	
• enforcement agency	12		0		0		50	
• jointly	52		57		23		33	
• manual	32		43		46		17	
Percentage of respondents where a violation was found.	21	(28)			10	(10)	0	(7)
Percentage of detected respondents that received a warning first.	83	(6)			100	(1)	0	(7)
Percentage of all respondents that received a sanction.	3				0		0	

3.6.5 *Relationship between inspectors and companies*Table 3.25: *Comparison of the relationship between inspectors and companies (answers in percentages; number of respondents in brackets)*

	NL		D (Bavaria)		GB		E	
Inspectors and companies combined: relationship in general								
• Relationship is good.	100	(72)	100	(9)	79	(22)	100	(15)
• Co-operation.	88	(66)	88	(8)	83	(22)	100	(14)
• Formal atmosphere.	78	(71)	50	(8)	84	(22)	100	(14)
Inspectors and companies combined: room for discussion / advice								
• Discussion is important.	94	(74)	100	(9)	90	(22)	75	(15)
• Discussion on content.	92	(69)	100	(7)	78	(9)	75	(15)
• Inspectors advice often.	76	(72)	100	(9)	79	(22)	91	(15)
Opinions inspectors on companies: dependency inspectors on companies								
• A good relationship is necessary.	72	(43)	78	(9)	62	(13)	100	(9)
• I am dependent on companies.	96	(47)	100	(9)	69	(13)	100	(8)

Despite a few exceptions, the opinions of inspectors and companies in all four countries on their relationship with each other are comparable. In general, the relationship is considered to be good, based on co-operation and rather formal. The relationship between companies and inspectors is the most positively evaluated in Spain and Germany and the least positive in Great Britain. However, the differences between the four Member States are minor and in all countries the relationship can be considered as co-operative.

In general, the relationship between inspectors and companies is good, although slightly less good in Great Britain.

An aspect that inspectors, both interviewees and questionnaire respondents, in all four countries have in common is that they feel rather dependent on companies for good enforcement. They state that it is necessary to have a good relationship with companies in order to obtain all relevant information.

In all four Member States inspectors feel rather dependent on companies in order to be able to enforce this directive to the full.

Notes

- 1 The information on the Seveso II enforcement practice in the Netherlands according to inspectors is based on 15 interviews and 47 questionnaires. The information on the enforcement practice according to companies is based on six interviews and 28 questionnaires. For more information on the interviewees and questionnaire respondents, see Annex I.
- 2 Based on the Dutch 'Pollution of Surface Waters Act' one other actor can be responsible for the enforcement of the Seveso II directive as well. When a company is involved in regular drainage in surface waters, and licenses are provided in this area, the competent authority based on this act must be involved in the enforcement as well. In some cases, this competent authority can be the same as the regular environmental competent authority. Since this

authority is not standard involved, it will be left out of the description of the enforcement practice.

- 3 The environmental departments of the provinces and municipalities usually enforce the Seveso legislation themselves, however in some cases they do have the opportunity to delegate this task to an environmental agency. The most important example in the case of the Seveso II directive is 'DCMR', environmental agency Rijnmond, in the Rotterdam harbour district. DCMR is a joint co-operation of 18 municipalities and the province 'Zuid-Holland'. For this province and these municipalities it executes the environmental enforcement tasks. Since in this region approximately one third of the Dutch Seveso establishments are located – and municipalities often do not have enough expertise to carry out this line of work – DCMR executes the Seveso II enforcement for them. The province and the municipalities remain the final responsible actors, however.
- 4 In this research, the number of 145 environmental inspectors is used as a reference.
- 5 In this research, the number of 100 fire brigade inspectors is used as a reference.
- 6 Table 3.1 shows a large percentage of fire brigade inspectors who work 75-100% of their time on Seveso II. This percentage is not representative for the entire group of fire brigade inspectors. The questionnaire respondents largely were drawn from the group of full-time inspectors who work for the clusters. The other 70 to 90 fire brigade inspectors mostly only spend less than 25% of their time on this topic.
- 7 'Handreiking Uitvoering BRZO 1999 voor Overheden'; 'Assistance Execution Major Accident Hazards Decree 1999 for Governments'.
- 8 A safety report has to be rewritten every five years, therefore these numbers of visits are on a five-year basis.
- 9 'Rapport Informatie-eisen BRZO 1999'; 'Report Information-Demands Major Accident Hazards Decree 1999'.
- 10 Dutch 'Major Accident Hazards Decree 1999', Article 16 (1), (2).
- 11 This large percentage of inspectors who did not yet know whether safety reports needed to be rewritten can be explained by the fact that the first assessment under Seveso II was still running during the time of completing the questionnaire.
- 12 Or sooner in case of new facts or new technical knowledge about safety matters: Article 9 (5) of the directive.
- 13 Companies do not agree with this. According to a majority of the company respondents the inspectors check other legislation as well during the 'Seveso II visits'.
- 14 NIVRIM: 'Niet Veiligheidsrapportplichtige Bedrijven Inspectie Methodiek'; 'Lower Tier Establishments Inspection Method'.
- 15 'Arbeidsveiligheidsrapport Inspectie Methodiek'; 'Labour Safety Report Inspection Method'.
- 16 There is an obvious difference between the agencies however: 93% of the labour inspectors use it, whereas the environmental inspectors (64%) and fire brigade inspectors (50%) use it less often.
- 17 This fine is new in the respect that inspectors can impose these themselves without interference of a judge. Before the introduction of this fine inspectors could only use warrants for which they had to contact the public prosecutor. Now the public prosecutor only has to be consulted in case of criminal offences. The administrative fines can be as high as 45.000 euro for a company and 225 euro for individual employees.
- 18 Only 20 to 25 of the 47 Dutch questionnaire respondents (inspectors) completed the part of the questionnaire on sanctioning. The other respondents felt that they did not yet have enough experience to answer this.
- 19 There are differences between the enforcement agencies in what type of sanctioning instru-

- ment they expect to use most often. Labour inspectors expect to mostly use a warrant or to close down a company. Environmental inspectors more often expect to use a penalty and fire brigade inspectors do not expect to use any of the instruments frequently.
- 20 The descriptions of the German enforcement practices according to the inspectors are based on 12 interviews with representatives in all three Länder and 9 questionnaires from Bavaria alone. The information on the enforcement practice according to companies is based on four interviews. The distribution of the questionnaires was problematic in Germany. In both Baden-Württemberg and North-Rhine Westphalia it was not possible to receive permission to distribute the questionnaire among inspectors. In both cases the reason was the same: since Germany was late with the transposition of the directive – and inspectors therefore only had little experience with inspections – they were afraid that their answers would be incorrect and incomplete. This was also the reason for companies to be unwilling to cooperate. Because of the late transposition, most companies were during the phase of sending the questionnaires (spring 2001) still in the starting phase of writing their safety report. Therefore, companies were unwilling to complete a questionnaire on this topic. For more information on the interviewees and questionnaire respondents, see Annex I.
 - 21 Since Cologne is a highly industrialised region, this number of 30 inspectors is likely to be rather high. Therefore the total estimate for North-Rhine Westphalia is based on 12 to 20 inspectors per each of the 24 offices. Seen the number of inspectors in Baden-Württemberg (115) and Bavaria (290) this estimate of 300-500 is likely to be reasonable since North-Rhine Westphalia has more inhabitants (17 million, opposed to 10 million in Baden-Württemberg and 11 million in Bavaria) and is more industrialised.
 - 22 In this research, the number of 15 is used as a reference. Note that this is just an estimate.
 - 23 This number is calculated according to figures known in 1 of the 7 regional governments and therefore has to be handled with caution:
 - 3 persons per regional government: $3 \times 7 = 21$
 - 2 persons per local authority: $2 \times 96 = 192$
 This number has been rounded off to 210.
 - 24 Approximately 10 persons per regional office of the factory inspectorate is 80 persons in total.
 - 25 The environment institute forms the link between the environmental ministry in North-Rhine Westphalia and the 12 offices of the environment agency. The labour protection institute forms the link between the health ministry and the labour protection agencies. Both institutes are responsible for the overall advice and support for the regional enforcement agencies.
 - 26 The answers in this table represent ‘expectations’ since the assessment practices related to Seveso II were still under construction. Only in Bavaria questionnaire results are available for some questions. In these cases the number of respondents are represented in brackets.
 - 27 German ‘Federal Immission Control Act’, Article 29A.
 - 28 The answers in this table represent ‘expectations’ since the inspections were still based on Seveso I and were not yet updated to the new requirements under Seveso II. Only in Bavaria questionnaire results are available for some questions; these answers represent expectations by the Bavarian inspectors. In these cases the number of respondents are represented in brackets.
 - 29 Since only Bavarian inspectors completed the questionnaire, the information in this section on the relationship between inspectors and companies is only based on Bavaria. Since the inspections did not yet focus on the Seveso II requirements, the answers of inspectors on questions concerning their relationship with companies is still based on the situation under

- the first Seveso directive.
- 30 The information in this section on the enforcement practice in England and Wales according to inspectors is derived from six interviews and 13 questionnaires. Of the 13 questionnaires, 11 were completed by labour (HSE) inspectors and only 2 by environmental (EA) inspectors. It is therefore not possible to make a distinction between HSE and EA answers. The information on the enforcement practice according to companies is based on six interviews and ten questionnaires. For more information on the interviewees and questionnaire respondents, see Annex I.
- 31 The 450 'Local Authorities' in the United Kingdom are also involved in the enforcement of the Seveso II directive. They are responsible for the enforcement of the aspect of land-use planning (Article 12 of the directive). Besides, the local authorities write the external emergency plans (Article 11). Since these two aspects are not covered in this research, the local authorities will be left out of the description.
- 32 This is the total for England and Wales only, not for the entire UK.
- 33 Hand-out 'Joint UK/Dutch Seveso II workshop', 19 & 20 November 2001 in London. COMAH is the regulation that transposed the Seveso II directive.
- 34 'Charging for COMAH activities – A guide'.
- 35 The answers of the questionnaire respondents coincide with the description in this guidance manual. Most of the inspectors individually claim to spend between five to ten days per safety report. For an average team of five assessors this would also mean 25 to 50 days in total.
- 36 The reason for the answers of only one day is the fact that up until now most visits only focused on the assessment of the safety report. The actual inspections are likely to last longer.
- 37 The 'Environment Agency' also set up a list of factors that determine whether an inspector should prosecute or not: environmental effect of the offence, foreseeability of the offence, intent of the offender, history of offending, attitude of the offender, deterrent effect of a prosecution and the personal circumstances of the offender. ('Enforcement and Prosecution Policy', page 5.)
- 38 <http://www.hse.gov.uk/hid/land/comah/careport.htm>
- 39 The description of the Spanish enforcement practice according to inspectors is based on nine interviews and nine questionnaires. Since the nine inspectors come from different private inspection agencies throughout Spain, the results can not be divided per Autonomous Community and therefore the results of the questionnaire will be treated as 'Spanish results'. These inspectors are only responsible for the inspections and therefore there are no questionnaire results on the aspect of safety report assessments. The information on the Spanish enforcement practice with respect to the Seveso II legislation according to companies is derived from 2 interviews and 7 questionnaires. For more information on the interviewees and questionnaire respondents, see Annex I.
- 40 Each Autonomous Community has its own government ('consejo de gobierno') and parliament ('asamblea regional'). These governments are subdivided into different 'ministries' which are responsible for different topics such as environment, health, economy, etc. The names for these 'ministries' differ per Autonomous Community. In Valencia they are called 'conselleria', in Madrid 'consejería' and in Catalonia 'departament'.
- 41 Since the situations are so alike within the three Autonomous Communities, they can be described in one table.
- 42 In Valencia the competent authority assesses the safety reports.
- 43 Valencia forms an exception since the competent authority assesses the safety reports.
- 44 Since the assessment and inspection tasks are separated in Spain and the questionnaire was

- only send to inspection agencies, there are no questions completed on the assessment practice. The information on the assessment of the safety report is derived from interviews only.
- 45 TNO: Toegepast Natuurwetenschappelijk Onderzoek (Applied Natural Scientific Research).
- 46 INERIS: Institut National de l'Environnement Industriel et des Risques (National Institute for the Industrial Environment and Risks).
- 47 IQS: Institut Químic de Sarrià (Chemical Institute of Sarrià).
- 48 The answers in this table, apart from the 'companies', represent 'expectations' since the assessment practices (apart from Catalonia) related to Seveso II were still under construction.
- 49 Cualicontrol did not want to participate in this research because of their enormous workload, nor was there a website available with information.
- 50 There seems to be a misunderstanding between the Catalan industry ministry and ECA on who established this instrument. Both actors claim this responsibility. Even if the Catalan ministry was responsible for the setting up of this inspection tool, it is not strictly a Catalan tool since ECA will use it in the other Autonomous Communities as well.
- 51 The interviewees do not agree; they indicate that for larger companies inspections can easily last four to five days.
- 52 This estimate applies to the assessment and inspection combined. Since these aspects are separated in Spain, the 10 to 25 days are spent by two organisations together.
- 53 Thus not by the inspection agencies themselves.
- 54 Since the inspections did not yet include the Seveso II requirements, the answers of inspectors on questions concerning their relationship with companies are still based on the situation under the first directive.
- 55 In Germany per Land two enforcement agencies are involved.
- 56 Only in Valencia a regional environmental ministry is part of the competent authority, but environmental agencies furthermore do not play a central role in the Spanish enforcement practice.
- 57 The three Spanish Autonomous Communities have such a comparable organisation that they can be described in one table.
- 58 Where possible – in case both inspectors and companies answered the same question – this table represents averages within the four countries; the answers of inspectors and companies are combined.
- 59 In Germany the inspections, or part of the inspections, can sometimes be outsourced; in case of special difficult questions.
- 60 Where possible – in case both inspectors and companies answered the same question – this table represents averages within the four countries; the answers of inspectors and companies are combined.
- 61 The three Spanish Autonomous Communities have such a comparable inspection practice that they can be described in one table.
- 62 There is a difference of opinion between companies and inspectors: companies think only 35% of the visits are pure Seveso II visits, whereas inspectors think this percentage is higher.
- 63 Companies indicate a lower percentage than inspectors do.
- 64 Only Spanish companies do feel that inspectors consider compliance costs.
- 65 Where possible – in case both inspectors and companies answered the same question – this table represents averages within the four countries; the answers of inspectors and companies are combined.
- 66 Only 22% of the inspectors state to consider compliance costs, opposed to 67% of the companies.

Chapter 4

The Seveso II compliance practice

4.1 Introduction

4.1.1 *The Seveso II directive*

Companies, in order to comply correctly with the Seveso II directive, first have to notify to the competent authority that they are a ‘Seveso establishment’. Then they have to set up a ‘Major Accident Prevention Policy’ (MAPP), a ‘Safety Management System’, an ‘Internal Emergency Plan’ and a ‘Safety Report’. Since the safety report forms the crux of this legislation that integrates most of the requirements, this research focuses on this requirement in specific.

Annex II – ‘Minimum data and information to be considered in the safety report’ – of the European directive mentions the aspects that should at least be described in a safety report. According to this Annex, a safety report should contain five parts:

- 1) Presentation of the MAPP-document and the ‘Safety Management System’. All upper tier establishments should have a safety management system available that refers to the organisational structures, responsibilities, practices and procedures within an establishment. According to Annex III of the directive, a safety management system should consist of the following seven elements:
 - Organisation and personnel: all different roles and responsibilities of the personnel should be recorded and the training of workers should be identified.
 - Identification and evaluation of major hazards: there should be a procedure to identify and assess hazards.
 - Operational control: procedures and instructions for safe operation should be present.
 - Management of change: there should be procedures and instructions for situations of modification or the design of new installations.
 - Planning for emergencies: procedures for the development, implementation, revision, testing and updating of emergency plans should be available.
 - Monitoring performance: the objectives within the safety management system should be assessed and monitored on an ongoing basis and procedures should be present for the correction of non-compliance.
 - Audit and review: an audit should be present to check, by independent personnel, whether the activities agree with the safety management system and a review should study the appropriateness of the existing system.
- 2) A presentation of the environment of the establishment. This presentation includes a description of the site and its environment (e.g. geographical location, meteorological and geological conditions) and a description of the installations that might experience a major accident.
- 3) A more detailed description of these possibly dangerous installations; especially a description of the processes and substances involved.
- 4) A detailed description of the possible major accidents in scenarios and a presentation of the probability that these scenarios might occur. The events that might lead to the scenarios must be described as well.
- 5) A description of the measures (lines of defence) taken to prevent these scenarios from happening.

This chapter describes how upper tier establishments comply with their obligation to write and hand in a Seveso II safety report. Do companies in different countries have a similar or deviating compliance practice when writing their safety report? The compliance practices in the four Member States are divided into three categories: (1) general organisation, (2) workload and (3) level of compliance.¹ This chapter concludes with a comparison of the compliance practices.

4.1.2 *Short overview of the safety report obligations*

The actual writing of a safety report mostly is a desk job, but in order to gather all information needed to present in the report, it is, amongst others, necessary to talk to people, analyse company procedures and documents, gather and analyse municipal and meteorological information, and walk around the site for observation. To give a few examples, in order to be able to describe the management of an establishment, it is necessary to study the company documents to be able to present aspects such as the distribution of functions and responsibilities for certain activities and installations. The company should present a list of people that have to be contacted in case of an accident. For a complete safety report, the compiler should draw up a topographic map of the establishment and its surroundings in order to be able to assess the possible consequences of a major accident. Such maps should show the land use pattern in the surroundings and thus indicate where to find the closest industry, urban settlements, environmentally sensitive locations, etc. Besides these maps, there should be a detailed description of the surroundings that indicate aspects such as population densities and the vicinity of public buildings such as schools or hospitals. Obligations such as these require the compilers to study the surroundings closely and thus to study public registers and contact local or central authorities for all relevant information. Also important are meteorological data such as the average and maximum amounts of rain, snow or hail. What is the most regular direction and speed of wind, in case toxic gases escape? What is the chance of an earthquake or volcanic activities to happen? In order to collect such data, contacts have to be made with meteorological institutions.

Table from Dutch guidance document 'RIB', page 67.
 Example of table with foreseeable accidents in nature and size.

installation	type of accident	probability	reach
production section I	- leakage toxic gas	- average	- wounded persons within section
	- large spill of toxic gas	- very small	- deceased within section, wounded persons inside and outside establishment
	- fire / explosion	- very small	- deceased within section
tank park I	- leakage toxic gas	- small	- wounded persons within establishment
	- large spill of toxic gas	- very small	- deceased and wounded, even outside the establishment
tank park II	- large fire / explosion	- very small	- deceased within tank park, wounded within establishment
	- BLEVE (boiling liquid expanding vapour explosion)	- very small	- deceased and wounded, even outside the establishment

All available toxicological information on the dangerous substances present has to be collected: for example, the type and origin of the substances, the physical and chemical properties, the flammability and explosive characteristics. Of all installations a description has to be presented of their basic operations. How do installations normally work, what substances do they handle, how are they maintained, etc? In order to complete an adequate safety report, compilers have to run complicated computer programmes to analyse the risks. A proper risk assessment should identify the sections of the establishment where a major accident potentially might occur. It should also identify those causes and conditions that might lead to a major accident. There might be different types of hazard sources. Examples are operational sources such as human errors during operation or failures during testing and maintenance. Other examples are external sources such as the impact of neighbouring activities or natural hazards. There can also be causes related to the design and construction of installations. The assessment should contain detailed scenarios of possible accidents, their consequences and likelihood. World-wide there are many risk assessment procedures that establishments can use. Usually, major chemical companies developed their own risk assessment tool. The main aspect companies have to assess is the probability of a major accident to happen and the severity of its consequences. Related to this, the safety report should contain a detailed overview of the prevention and control measures (lines of defence) the company arranged to prevent an accident from happening. What back up systems, water sprays, emergency venting, emergency shut-of valves, etc. are available where at the site? What criteria did the compiler use to ensure that these prevention measures are sufficient?

The above-mentioned examples merely form a tip of the iceberg. Overall, the compilation of a safety report entails even more work.

4.2 The Netherlands

4.2.1 *General organisation*

Dutch companies, generally speaking, make a large part of the safety report themselves, but outsource some complicated requirements. Aspects that are outsourced most often are those calculations for which special computer programmes are necessary. Examples are the Quantitative Risk Analysis (QRA), Environmental Risk Analysis and the calculation and sometimes even description of the scenarios.² There is a small percentage of Dutch companies that completely outsources the writing of the safety report. Reasons why companies outsource the making of the entire report or parts of it vary from 'no time', to 'no expertise for all aspects', to 'to ensure objectivity'. Since there are only a few consultant agencies available in the Netherlands that can make these reports, these agencies are busy and long waiting lists exist. A small percentage of the Dutch companies is able to write the report entirely on its own. Only large multinationals might be able to write their own safety reports, since they have the special computer programmes available to perform a risk analysis. The reason for making the report themselves for these companies is that they feel that they are the only party to completely know the management system of their own company and therefore the first and only persons competent to compile such a report. They claim that a contractor can never know all the ins and outs of the company that are necessary to make such a complicated document.

Thus in general Dutch companies write a large part of the safety report themselves. Most companies appointed a special department for this activity. These departments usually carry names such as 'Health, Safety & Environment Department' or 'Safety and Environment Department'. It is rather uncommon to train personnel to write a safety report; compilers have to learn writing a report on the job.

Table 4.1: General organisation in the Netherlands (answers in percentages; number of respondents in brackets)

How did companies learn about the concrete demands?		(27)
• inspectors	37	
• on my own	26	
• industry association	11	
• different	26	
Companies outsource the writing of the safety report:		(27)
• no	4	
• yes, partly	78	
• yes, completely	18	
Companies with a special department.	92	(26)
Companies that trained their personnel.	25	(28)
Most companies started writing in...?	2000	
Companies that use compliance tools:		
• RIB	96	(26)
• SERIDA	50	(24)
• PROTEUS	54	(26)
Usage of a national safety report format.	11	(26)
Usage of an international safety report format.	0	(27)
Companies have contacts with...		
• neighbouring establishments	59	(27)
• similar companies	54	(26)
• mother company	50	(24)
• industry association	42	(26)
• sister companies in other countries	17	(24)
Companies rewrite their safety report...		(28)
• never	3	
• 1 time	47	
• 2 or 3 times	50	
• more than 3 times	0	
• don't know yet	0	

Most Dutch upper tier establishments started the writing of their safety report in 2000. Usually, this writing is an individual activity per establishment. There hardly are examples in the Netherlands of establishments of the same company that use one company-format to write the safety report. The few companies that are able to use such a national safety report format are multinationals with a standardised safety management system. In this approach, usually a team of people is, at national level, responsible for the company-specific elements and per site a few people complete the site-specific part of the report. Multinationals that lack a central management system let the establishments themselves decide how to comply with

the Seveso II legislation. Therefore, it can happen that different establishments of one company cannot use one format to make a safety report and thus produce different types of reports. None of the Dutch respondents could use an international format; there were no multinationals that set up an international format for how to make a safety report. Even though most companies thus make the safety report on their own (or with help of a consultant), most companies do have some contacts with others. More than half of the respondents exchange information with neighbouring upper tier establishments about the safety report obligations. It is also popular to exchange information with similar companies or with the mother company.

In order to be able to write a good safety report, Dutch companies use a governmental guidance document: 'RIB'.³ This report helps inspectors to assess a safety report and companies to write one. It particularly focuses on the scenarios that companies have to write. Besides this help to write the report, half of the company respondents used two computer programmes. The first is 'SERIDA' ('Safety Environmental Risk Database') to calculate whether companies must comply with the Seveso legislation. This programme can also show whether a company is a lower or an upper tier establishment. The second computer programme, 'Proteus', is a risk analysis model to indicate the environmental risks for surface water.

SERIDA is a database and software application for establishments to assess the risks of their dangerous substances to humans and the environment. The database contains 684 substances. The user only has to fill in the required information on the establishment, installations and substances and SERIDA calculates the relevant hazard categories.

4.2.2 Workload

Compilers usually work in teams on the safety report requirements. Generally, Dutch companies appointed three to five employees to write the safety report. There are a few questionnaire respondents that only appointed one person to write the report; these are the companies that outsourced the writing of the entire report. The one respondent that wrote the entire report itself appointed a team of more than five people for these obligations: the writing of the safety report in this case took ten months with eleven people full-time. The total amount of time spent in the other companies on writing the report varies from five months with one person to twelve months with 24 persons. On average, Dutch upper tier establishments spent eleven months with 4,5 persons on writing the safety report.

The severity of the obligations depends on the number of installations and the number of scenarios a company has to present. The numbers of installations present at the upper tier establishments that completed the questionnaire show a larger variation; it varies from three to 161 installations. On average, the Dutch companies house 23 installations. The number of scenarios the compilers had to describe varies from four to 250; on average 56 scenarios. In practice this means that Dutch upper tier establishments write about 2,4 scenarios per installation. The length of the safety reports that companies produced varies greatly: from 70 to 3.000 pages. On average, a Dutch safety report contains 395 pages. Almost all Dutch companies performed a Quantitative Risk Analysis.

Table 4.2: Workload in the Netherlands (number of respondents in brackets)

Number of people writing the safety report (in percentages):		(28)
• 0	0	
• 1	21	
• 2	21	
• 3 to 5	44	
• more than 5	14	
Average amount of time for writing the safety report.	11 months with 4,5 people	
Average number of installations.	23	
Average number of scenarios.	56	
Average number of scenarios per installation.	2,4	
Average length of the safety report in pages.	395	
Companies that performed a QRA (in percentages).	96	(24)
Future workload for Seveso II obligations (in percentages):		(27)
• less than 1 full-time job	85	
• 1 to 2 full-time jobs	15	

4.2.3 *Level of compliance*

All Dutch companies are of the impression that they comply closely with the safety report requirements in the Seveso II directive. Dutch inspectors, however, are not truly convinced about this. Only slightly more than half of them feels that companies comply well. Especially the labour inspectors are rather sceptical.

There are a few aspects in complying with the Seveso II directive that companies seem to have problems with. Some companies complain that they have too little time to compile their safety report since this is such a huge amount of work. Some also complain that the information asked for in the report is so detailed that it is almost impossible to find all this information. Most of all the level of detail asked for in the scenarios is seen as extremely demanding. Some of the smaller respondents replied that especially for them the workload is enormous and almost impossible.

Table 4.3: Level of compliance in the Netherlands (answers in percentages; number of respondents in brackets)

	Companies		Inspectors	
We / companies comply well.	100	(28)	60	(43)
Larger companies comply better than smaller companies do.			65	(40)
Problems with compliance?	<ul style="list-style-type: none"> - too little time - asked for too many details - high workload for small companies 			

4.3 Germany

The information on the compliance practice in Germany is limited because the questionnaire unfortunately could not be distributed. The main reason for this lack of information on how companies comply with their obligation to write a safety report is that German companies were – due to a late transposition of the Seveso II directive in Germany – not yet, or only recently, working on the writing of the report during the time of conducting this research (spring 2001). Article 9 (3) of the Seveso II directive states two deadlines before which upper tier establishments have to hand in their safety report: 1 February 2001 for already existing Seveso establishments (under Seveso I) and 1 February 2002 for new Seveso establishments that did not previously fall under Seveso I. Whereas companies in the other Member States generally had the obligation to hand in the report before 1 February 2001, most German companies had the later deadline of 1 February 2002. Most companies in the other Member States already were a ‘Seveso I’ company and therefore had the 2001-deadline. In Germany, due to a change in legislation, all companies were considered ‘new Seveso establishments’ and therefore had the 2002-deadline. Therefore, at the moment of sending out the questionnaire many establishments were not yet, or only recently, working on their safety report and thus they were unable (and unwilling) to complete a questionnaire on this topic.⁴

A representative of the chemical industry association is of the impression that most German companies, especially the larger establishments, will try to write the safety report themselves. Whereas in the Netherlands the topic of risk analysis was outsourced often, in Germany this is expected to be rare. Companies want to control this subject themselves and therefore risk analyses are hardly outsourced.

The companies that were interviewed already started to work on their safety report, but none of them finished it yet in spring 2001. The interviewees mentioned to have problems with the writing of the safety report. These problems are related to a deviating tradition in German legislation; whereas the Seveso II directive focuses on entire establishments, German legislation concentrates on individual installations. German companies find it hard to write a safety report covering the entire establishment since they are more used to think in terms of individual installations. Of course German companies had safety analyses for individual installations, but hardly any of them, with the exception of larger multinationals, had a safety management system focused on the entire establishment and therefore they have to set this up newly. This is a big disadvantage compared to other Member States where companies were more used to think in terms of establishments instead of individual installations. Therefore it is understandable that German companies complain about the large amount of work to set up a safety report for the entire establishment and it is also understandable why no company yet finished its report in 2001.

4.4 Great Britain

4.4.1 *General organisation*

Opposed to Dutch companies that generally outsource at least a part of the requirements, British companies generally make the safety report themselves. Only one questionnaire respondent partly outsources some of the safety report requirements. The aspects that this company outsources are the Quantitative Risk Analysis and other necessary risk analyses. It did not want to purchase an expensive computer programme for executing these analyses for

only one safety report. This picture derived from the questionnaire results corresponds with the ideas of representatives from the competent authority who also are of the impression that British companies generally make the report themselves. One inspector from the HSE estimated that 90% of the British establishments write their own report. The competent authority is content with this situation. They actually stimulate upper tier establishments to write the report themselves since they feel that reports made by contractors can never be as good as those made by companies themselves. In order to be able to write a good safety report, the compiler has to know the establishment extremely well. An external consultant is never able to gather the information needed for an adequate report.

Almost all companies appointed one of their specialised departments for the compliance with the Seveso II requirements and thus for writing the safety report; usually the 'Safety, Health & Environment Department'. It is less common, however, for British companies to train its personnel on how to write a safety report.

The period of time in which companies started writing their safety report varied from March 1999 to January 2002. Most of the British companies started in 2000. For quite some companies, the writing of the safety report can be executed with outside help. British companies are able to use an extensive guideline to set up the safety report; more than half of the companies can use a national safety report format and finally almost half of the respondents has regular contact with neighbouring companies on the Seveso II compliance.

The guidance tool available is the 'Safety Report Assessment Manual'. This manual was set up for British inspectors to help them to assess the safety report, but companies also use it quite extensively as a help to compile their report. The competent authority did make a 'company-version' of the assessment manual, but companies all use the 'inspector-version'. Companies, to help them to judge whether a loss of containment can lead to serious damage to the environment, also use the guideline on environmental aspects.⁵

Slightly more than half of the respondents could use a national company format to write the safety report. Companies with multiple sites in Great Britain usually appointed a steering group that arranges the co-ordination between the sites. This group delivers general company information to the individual establishments after which these establishments themselves have to finalise the report by adding the site and installation specific details. Two respondents could even use an international company format for their safety report. British companies generally have to rewrite their safety report at least once before it is accepted.

British environmental guideline, page 29.

Examples of questions that companies should address in their safety report related to risks to the environment:

- How much chemical in what composition and concentration is likely to be released?
- Are the chemicals involved likely to persist in the environment and/or bioaccumulate?
- What environmental receptors are likely to be exposed? How sensitive are the receptors to the chemical?
- Are effects likely to vary in kind or severity depending on the time of the year?

Table 4.4: General organisation in Great Britain (answers in percentages; number of respondents in brackets)

How did companies learn about the concrete demands?		(10)
• inspectors	30	
• on my own	30	
• industry association	20	
• different	20	
Companies outsource the writing of the safety report:		(7)
• no	86	
• yes, partly	14	
• yes, completely	0	
Companies with a special department.	80	(10)
Companies that trained their personnel.	38	(8)
Most companies started writing in...?	2000	
Companies that use compliance tools:		
• SRAM	60	(10)
• Environmental guidance	60	(10)
Usage of a national safety report format.	57	(7)
Usage of an international safety report format.	29	(7)
Companies have contacts with...		
• neighbouring establishments	40	(10)
• similar companies	20	(10)
• mother company	40	(10)
• industry association	30	(10)
• sister companies in other countries	10	(10)
Companies rewrite their safety report...		(10)
• never	30	
• 1 time	30	
• 2 or 3 times	20	
• more than 3 times	20	
• don't know yet	0	

4.4.2 Workload

Even though it is common that British companies write the entire safety report themselves, half of the questionnaire respondents only have one person working on the safety report. The other half have two persons or more who are responsible for the writing. The time these companies spent on writing their safety report varied from four months with one person to 24 months with two persons. On average, the British upper tier establishments spent nine months with three persons.

The number of installations present at the establishments varies between only one and seven. On average, the questionnaire respondents house 3,5 installations. The scenarios these

companies had to write varied from five to 55 (on average 23 scenarios). This means that British companies on average seem to write 6,5 scenarios per installation. The length of the safety reports the questionnaire respondents produced varies between 200 and 760 pages: on average 444 pages.

Table 4.5: Workload in Great Britain (number of respondents in brackets)

Number of people writing the safety report (in percentages):		(8)
• 0	0	
• 1	50	
• 2	37	
• 3 to 5	14	
• more than 5	0	
Average amount of time for writing the safety report.	9 months with 3 people	
Average number of installations.	3,5	
Average number of scenarios.	23	
Average number of scenarios per installation.	6,5	
Average length of the safety report in pages.	444	
Companies that performed a QRA (in percentages).	50	(8)
Future workload for Seveso II obligations (in percentages):		(8)
• less than 1 full-time job	37	
• 1 to 2 full-time jobs	63	

4.4.3 *Level of compliance*

Not all British respondents are positive about the compliance level of their own company. Three of the ten respondents do not feel that their own company complies closely with the Seveso II legislation. They responded that their company did not realise how much work the writing of a safety report entailed and therefore under-resourced it. Quite some of the other companies that did feel that they complied closely also complained about the huge amount of work the compliance with this legislation entails. As in the Netherlands, two smaller companies complained about the impossibility for smaller companies to conform to all demands. British inspectors are negative about the compliance rate of companies; only a few of them are of the impression that companies comply well with the Seveso II directive.

Table 4.6: Level of compliance in Great Britain (answers in percentages; number of respondents in brackets)

	Companies		Inspectors	
We / companies comply well.	70	(10)	15	(13)
Larger companies comply better than smaller companies do.			54	(13)
Problems with compliance?	- too much work			

4.5 Spain

4.5.1 General organisation

In Spain most companies learned about the demands imposed by the Seveso II directive via the national chemical industry association ‘Feique’. In Spain, as in the Netherlands, it is common for companies to outsource a part of the safety report requirements. Here as well, only multinationals are in the position to make the safety report themselves. The aspects that are outsourced most often are the various types of risk analysis and risk identification. The main reason why these elements are outsourced is that Spanish companies do not want to invest a large sum of money in a computer programme that is needed for such a risk analysis since they only need to use it once. Another reason is that companies admit that they lack the knowledge needed for some of the detailed parts a safety report needs to present.

Table 4.7: General organisation in Spain (answers in percentages; number of respondents in brackets)

How did companies learn about the concrete demands?		(7)
• inspectors	14	
• on my own	0	
• industry association	86	
• different	0	
Companies outsource the writing of the safety report:		(7)
• no	29	
• yes, partly	42	
• yes, completely	29	
Companies with a special department.	71	(7)
Companies that trained their personnel.	71	(7)
Most companies started writing in...?	2000	
Companies that use compliance tools.	0	(7)
Usage of a national safety report format.	14	(7)
Usage of an international safety report format.	14	(7)
Companies have contacts with...		
• neighbouring establishments	71	(7)
• similar companies	43	(7)
• mother company	56	(7)
• industry association	86	(7)
• sister companies in other countries	14	(7)
Companies rewrite their safety report...		(7)
• never	0	
• 1 time	0	
• 2 or 3 times	57	
• more than 3 times	14	
• don't know yet	29	

Most Spanish companies appointed a special department to be in charge of the Seveso II requirements and also trained their personnel on how to write a safety report. The name of this department usually is 'Safety, Health & Environment Department'. Two respondents did not appoint a special department with the reason that they completely outsourced the writing of the safety report.

Most questionnaire respondents started to write their report in 2000. Whereas British companies often were able to use governmental guidance or a company safety report format, Spanish companies generally speaking have to comply with the Seveso II directive completely on their own. There are a few instruments available, but none of the respondents indicated to use these.⁶ Nor is it common for companies to use national (or international) safety report formats. However, almost all companies have contact with their industry association on how to write a safety report. Also contact with neighbouring upper tier establishments seems to be quite common. As in the Netherlands and Great Britain, also Spanish companies had to rewrite their safety report, even more than once, before the competent authority accepted it.

4.5.2 *Workload*

The Spanish workload when writing a safety report seems to be lower compared to the Netherlands and Great Britain. One company that outsourced the writing of the safety report did not even appoint any of its employees for the overall supervision over the Seveso II compliance. The other companies usually have two or more persons working on the safety report. The total amount of time spent on the writing of the report varies between one month with one person to four months with five persons. As could be expected, the company that only spent one month with one person outsourced a large part of the requirements. On average, the Spanish respondents spent three months with 2,5 persons on compiling their safety report.

The number of installations present at the establishments varies from one to fourteen. On average, these companies house 5,5 installations. The number of scenarios companies had to submit varies from none at all to 25 (on average 9 scenarios). Thus, on average these Spanish companies write one and a half scenario per installation. The number of pages of a safety report varies from only fourteen to 900; on average 370 pages. Half of the questionnaire respondents were obliged to submit a Quantitative Risk Analysis.

Table 4.8: Workload in Spain (number of respondents in brackets)

Number of people writing the safety report (in percentages):		(7)
• 0	14	
• 1	14	
• 2	43	
• 3 to 5	29	
• more than 5	0	
Average amount of time for writing the safety report.	3 months with 2,5 people	
Average number of installations.	5,5	
Average number of scenarios.	9	
Average number of scenarios per installation.	1,5	
Average length of the safety report in pages.	370	
Companies that performed a QRA (in percentages).	43	(7)
Future workload for Seveso II obligations (in percentages):		(4)
• less than 1 full-time job	25	
• 1 to 2 full-time jobs	75	

4.5.3 Level of compliance

All Spanish respondents are of the impression that their own company complies closely with the Seveso II requirements. Inspectors hardly agree with this positive attitude; less than half of the inspector respondents is positive about the compliance rate of companies. Larger companies have a better reputation than smaller companies. Only one company mentioned to have problems with the compliance: it is difficult to obtain information on the risks and their consequences. It solved this problem by hiring a contractor to obtain this information for them.

Table 4.9: Level of compliance in Spain (answers in percentages; number of respondents in brackets)

	Companies		Inspectors	
We / companies comply well.	100	(7)	44	(9)
Larger companies comply better than smaller companies do.			100	(9)
Problems with compliance?	- difficult to obtain information			

4.6 **Comparison of the Seveso II compliance practices⁷**4.6.1 *General organisation*Table 4.10: *Comparison of the general organisation (answers in percentages; number of respondents in brackets)*

	NL		GB		E	
How did companies learn about the concrete demands?		(27)		(10)		(7)
• inspectors	37		30		14	
• on my own	26		30		0	
• industry association	11		20		86	
• different	26		20		0	
Companies outsource the writing of the safety report:		(27)		(7)		(7)
• no	4		86		29	
• yes, partly	78		14		42	
• yes, completely	18		0		29	
Companies with a special department.	92	(26)	80	(10)	71	(7)
Companies that trained their personnel.	25	(28)	38	(8)	71	(7)
Most companies started writing in...?	2000		2000		2000	
Companies that use compliance tools.	96	(26)	60	(10)	0	(7)
Usage of a national safety report format.	11	(26)	57	(7)	14	(7)
Usage of an international safety report format.	0	(27)	29	(7)	14	(7)
Companies have contacts with...						
• neighbouring establishments	59	(27)	40	(10)	71	(7)
• similar companies	54	(26)	20	(10)	43	(7)
• mother company	50	(24)	40	(10)	56	(7)
• industry association	42	(26)	30	(10)	86	(7)
• sister companies in other countries	17	(24)	10	(10)	14	(7)
Companies rewrite their safety report...		(28)		(10)		(7)
• never	3		30		0	
• 1 time	47		30		0	
• 2 or 3 times	50		20		57	
• more than 3 times	0		20		14	
• don't know yet	0		0		29	

This comparing table shows that there are differences as well as similarities between the Member States in how Seveso II upper tier establishments generally comply with their obligation to write and hand in a safety report. In the Netherlands and Great Britain it varies between the companies how they learned about the Seveso II requirements. In Spain, companies often relied on the national chemical industry association to learn about the demands.

The most obvious difference in the compliance practices is that upper tier establishments in Great Britain more often make the safety reports themselves whereas in Spain and the Netherlands this generally is outsourced. In the last two countries the Seveso II directive thus seems to create a whole new business of consultants making safety reports. The aspect that is outsourced most often is the risk analysis. The reason for outsourcing this topic is the same in all three Member States: in order to perform a good risk analysis, expensive computer programmes are necessary. Companies do not want to purchase expensive programmes that are only used once when writing the safety report. In all three countries, especially in the Netherlands, it is quite common for companies to appoint a special department for the Seveso II compliance. Such departments usually go by a name such as 'Safety, Health & Environment Department'. Only in Spain it is common for companies to train their personnel in writing a safety report.

British companies generally write the safety report themselves, whereas Dutch and Spanish companies more often outsource some of the aspects. Especially the risk analysis is outsourced frequently.

In all three Member States the upper tier establishments generally started writing on the safety report in 2000. Dutch companies make extensive use of a guideline to help them how to write a safety report. In Great Britain a safety report guideline is also available, but here companies make less extensive use of it than Dutch companies do. In Spain there is no safety report guidance available at all. Many British companies had the advantage that they could use a national safety report format. This makes the job easier since the mother company in these cases will provide the format and the individual establishments 'merely' have to fill in the site-specific elements. Some companies could even use an international format. Many multinationals in all Member States, however, complained about the inability to use an international format for the safety report due to the different requirements in the different countries.

Contact with third parties on how to write the safety report are rather common in all three countries, however the least in Great Britain. In Spain, upper tier establishments contact the national industry association and neighbouring establishments. This last category is also a popular contact in the Netherlands. In all three Member States, especially in Spain, it is rather common that companies have to rewrite their safety report before the competent authority approves it.

Multinationals in all four Member States complained that they could not use an international safety report format due to different requirements in different countries.

4.6.2 Workload

The total workload for writing a safety report is the highest in the Netherlands. Dutch upper tier establishments generally use large teams of three to five persons to write the safety report, whereas in Spain usually two persons are enough and British companies often suffice with one person alone. One Spanish company even did not appoint any personnel at all, but this company outsourced all Seveso II requirements. The total amount of time spent on writing the safety report is much higher in the Netherlands than it is in Great Britain and in Spain. One explanation for the higher workload in the Netherlands might be that the questionnaire respondents on average have more installations than British

Dutch companies have the highest workload when writing a safety report: they spent the most time in total.

and Spanish respondents do and therefore have to describe more scenarios.⁸ The number of scenarios per installation is not the highest in the Netherlands, however. This is higher in Great Britain. The higher workload for Dutch companies can also be explained by the Quantitative Risk Analysis that they all have to perform; in Great Britain and Spain this is less common.

The lower workload in Great Britain compared to the Netherlands is strange since this is the country where most companies make their safety report themselves. More British companies make the report themselves than Dutch companies do and still the British companies spent less time in total on writing their safety report. This might explain why some British companies complained that their company does not comply closely and that the writing of the safety report was under-resourced. One explanation why British companies have fewer people working on the safety report might be that it is rather common to work with national safety report formats. In the Netherlands and Spain almost every establishment has to 'reinvent the wheel' for itself which might explain why they need more personnel. Dutch companies expect to spend less time in the future on rewriting the report and touring inspectors than British and Spanish companies do.

The higher workload in the Netherlands compared to Great Britain and Spain can not be explained by a difference in size of the questionnaire respondents.⁹ The Seveso II respondents are approximately of the same size in the different countries. The Spanish respondents are even slightly larger than the Dutch and British ones, while their workload on average is lower.

Table 4.11: Comparison of the workload (number of respondents in brackets)

	NL	GB	E
Number of people writing the safety report (in percentages):	(28)	(8)	(7)
• 0	0	0	14
• 1	21	50	14
• 2	21	37	43
• 3 to 5	44	14	29
• more than 5	14	0	0
Average amount of time for writing the safety report.	11 months with 4,5 people	9 months with 3 people	3 months with 2,5 people
Average number of installations.	23	3,5	5,5
Average number of scenarios.	56	23	9
Average number of scenarios per installation.	2,4	6,5	1,5
Average length of the safety report in pages.	395	444	370
Companies that performed a QRA (in percentages).	96 (24)	50 (8)	43 (7)
Future workload for Seveso II obligations (in percentages):	(27)	(8)	(4)
• less than 1 full-time job	85	37	25
• 1 to 2 full-time jobs	15	63	75

4.6.3 Level of compliance

Table 4.12: Comparison of the level of compliance (answers in percentages; number of respondents in brackets)

	NL		GB		E	
	companies	inspectors	companies	inspectors	companies	inspectors
We / companies comply well.	100 (28)	60 (43)	70 (10)	15 (13)	100 (7)	44 (9)
Larger companies comply better than smaller companies do.		65 (40)		54 (13)		100 (9)
Problems with compliance?	- too little time - asked for many details - high workload for small companies		- too much work		- difficult to obtain information	

In general, British companies and inspectors are the least positive about the compliance rate in their own country of the three Member States studied. This negative attitude might be related to the fact that British companies spend less time on writing the report, even though they write the entire report themselves. In all three countries, companies are more positive about their own compliance record than inspectors are about this. Spanish inspectors especially agree to the statement that larger companies are better compliers than smaller companies are.

Dutch and British companies complain heavily about the large workload the compliance with the Seveso II directive brings along. The compilation of a safety report is seen as an enormous task and some of the details that have to be obtained are rather difficult to find. Smaller companies complain about the impossibility to write a good safety report. In Spain companies complain less about the compliance. It is striking that this country also shows the lowest workload when writing a safety report.

Companies are more positive about their own compliance level than inspectors are about the compliance rate of companies.

Notes

- 1 The information in the country descriptions is derived from interviews with and questionnaires completed by upper tier establishments in the four Member States. The following table shows the number of interviews and questionnaires per country. In brackets the percentage these respondents form of the total population of national upper tier establishments. (For more information, see Annex I on interviews and questionnaires.)

	NL	D	GB	E
Number of:				
• interviews companies	5	3	5	0
• interviews industry associations	1	1	1	2
• questionnaires companies	28 (19%)	0	10 (2%)	7 (11%)

- 2 In general, these QRA's calculate the risks to the external safety. They calculate the risks of a loss of containment from an installation to reach the fence of an establishment and harm the external environment and people outside the fences. The government set a fixed number to these QRA's with a maximum acceptable risk and the results of the QRA's cannot surpass this fixed number. If they do, a company will have to bring in more precautionary measures or more lines of defence to prevent an accident from happening.
- 3 'Rapport Informatie-eisen BRZO 1999'; 'Report Information-Demands Major Accident Hazards Decree 1999'. (For more information on this guidance document, see chapter 3, section 3.2.2.)
- 4 For more information on this late transposition and change in German legislation, see Chapter 9, section 9.3.1.
- 5 'Guidance on the interpretation of major accidents to the environment for the purposes of the COMAH regulations.'
- 6 Instruments available are a tool to check for companies whether they are a 'Seveso establishment', a manual with toxicological information on the substances of Annex I of the directive and a small leaflet with general information.
- 7 There are no German respondents, see section 4.3 and Annex I for further information.
- 8 There is no explanation for why Dutch companies seem to house more installations.
- 9

	NL	GB	E
Size of the respondents (number of employees):	(28)	(10)	(7)
• 1-10	0	0	0
• 10-50	7	10	0
• 50-100	11	20	14
• 100-500	68	60	43
• 500-1000	11	10	29
• > 1000	3	0	14

Chapter 5

The safety data sheets enforcement practice

5.1 Introduction

Whereas the Seveso II directive explicitly announced, in its Article 18, that Member States are obliged to organise inspections, the safety data sheets directive does not include such an article. When enforcing this legislation, the general elements that have to be inspected are likely to be the same in all Member States. Inspectors need to check whether companies that house dangerous substances and preparations have safety data sheets available for these products. Each sheet needs to use of the right (national) language, have 16 headings and show a correct content of these headings. Besides, inspectors have to check whether and to what extent companies regularly update their sheets and whether they comply with the demand to deliver the sheets with every first supply and within a year after each revision. To what extent and how inspectors will enforce the SDS directive precisely may vary between and within the Member States.

5.2 The Netherlands¹

5.2.1 Introduction

In the Netherlands, five enforcement agencies are appointed for the enforcement of the safety data sheets directive. In practice, only three of these agencies actually are involved: the 'Inspectorate for Health Protection and Veterinary Public Health' ('Keuringsdienst van Waren'), the 'Labour Inspectorate' ('Arbeidsinspectie') and the 'Inspectorate for the Environment' ('Inspectie Milieuhygiëne').² The three agencies represent the policy areas consumer health protection, occupational safety and health and environmental protection.

The 'Inspectorate for Health Protection and Veterinary Public Health' (health inspectorate) is, since 1998, divided into five regions throughout the Netherlands. In each of these regions, one or two controllers are responsible for chemical products.³ This means that there are about eight Dutch health controllers in total who are responsible for chemical products and thus for the topic of safety data sheets. These health controllers only spend a small percentage (less than 10%) of their time on this specific legislation.

The number of inspectors responsible for safety data sheets within the labour inspectorate changed over the years. After the adoption of the first EU directive (1991), the labour inspectorate appointed a number of 'labour hygienists' to be responsible for this legislation. In 1994 each of the six regional offices of the labour inspectorate located one or two of these labour hygienists; in total approximately ten to twelve inspectors were responsible for this topic. These inspectors only spent less than 25% of their time on this specific legislation. This involvement of ten to twelve inspectors only lasted a couple of years. Since 1997/1998, the intensity of the enforcement of this topic decreased and since then only four inspectors are appointed as specialists in this area. These four specialists spend less than 10% of their time on the enforcement of safety data sheets legislation.

Within the 'Inspectorate for the Environment' eight to ten inspectors are responsible for the SDS enforcement; about one or two inspectors per each of the five regional offices of the

inspectorate. These eight to ten inspectors are responsible for all aspects related to hazardous substances. They hold responsibility over the enforcement of the Dutch 'Hazardous Substances Act' and all its underlying decrees of which the topic of safety data sheets is one. The enforcement of the SDS legislation is not their only task, therefore. The total percentage of time they spend on safety data sheets differs per inspector; some inspectors spend less than 25% of their time on this topic whereas others spend between 25-50% or even 50-75% of their time. Especially the project leader responsible for this topic spends much time on safety data sheets.

Table 5.1: General organisation in the Netherlands

	H	L	E	total
Number of inspectors.	8	'94-'97: 10-12 '97-...: 4	8-10	20-22
Inspectors work part-time or full-time on SDS (in percentages):				
• 0-25%	100	100	40	80
• 25-50%	0	0	40	13
• 50-75%	0	0	20	7
• 75-100%	0	0	0	0
Actual contact between inspectors of different agencies.	hardly / never			
Are the enforcement agencies expected to co-operate during the inspection?	no			

Thus in total there are 20 to 22 Dutch inspectors who are responsible for the enforcement of safety data sheets legislation. Most of these inspectors enforce this topic only less than 25% of their time. Only a few environmental inspectors spend more time on SDS enforcement.

The three agencies are not expected to enforce the SDS directive together. Inspectors from each agency have their own tasks related to the inspection of safety data sheets and they do not enforce this legislation in joint teams. In general, the 'Inspectorate for Health Protection and Veterinary Public Health' focuses on consumer products, the 'Inspectorate for the Environment' on non-consumer products and the 'Labour Inspectorate' on aspects related to the protection of employees. While there is some co-ordination on management level, street-level inspectors hardly have contact with inspectors from the other agencies on this topic of safety data sheets.

5.2.2 Inspections

Since the safety data sheets inspections in the Netherlands are executed independently by the three enforcement agencies, the enforcement practices differ. Therefore, the inspections are described per agency.

a) Inspectorate for Health Protection and Veterinary Public Health

In practice, health controllers do not enforce the safety data sheets directive. They do not visit companies with the intention to inspect whether companies comply with this legislation.

Instead, the controllers visit companies in order to check the labels of consumer products such as domestic cleaning products, paint or thinners. They mainly look at the labels of these products and check whether these labels comply with consumer legislation. The controllers do come across safety data sheets from time to time.

Health controllers do not actively enforce the SDS directive. They only use the sheets to check the correctness of labels.

In order to be able to fully check the correct content of a label, controllers use all information available. Safety data sheets are one of the many sources of information that can be used to check a label. Especially headings two, composition and information on ingredients, and fifteen, regulatory information, of the sheets are used for this purpose. How often health controllers consult safety data sheets during their inspections depends on the person involved.

Whereas to enforce the SDS legislation labels should be used to check the sheets, the health controllers use the sheets to check the labels of consumer products. They never check the content of the 16 headings of a sheet for correct compliance as such.

b) Labour Inspectorate

The enforcement of the safety data sheets directive of the labour inspectorate can best be described in two periods: an active and a reactive period.

The labour inspectorate was the first agency in the Netherlands to start a project in order to inspect the topic of safety data sheets in 1994, the start of the active enforcement period.

In theory, this project was a joint co-operation with the inspectorate for the environment. In practice, however, twelve labour inspectors were involved and only one environmental inspector. The project focused on wholesalers, importers and manufacturers of chemical products and preparations. The aim of this project was twofold: on the one hand it was meant to pressure companies to make and distribute the required sheets and

Checklist labour inspectorate, page 3.

Heading 9 (physical and chemical properties):

- physical condition
- colour
- smell
- boiling-point
- melting-point
- flammability, etc.

on the other hand the aim was to get an idea of the level of compliance within the Netherlands. With the help of the 'Chamber of Commerce' and the 'yellow pages' a selection of 136 companies was made. The inspectorate set up a checklist of four pages for inspectors with the aspects that should be inspected. It contains three general questions on whether the sheet is available in Dutch, whether it shows the correct date and whether it has all 16 headings. Furthermore, there is a list with points of attention for each of the 16 headings. During the project, this checklist was used extensively.

The enforcement project showed the following results: 46% of these 136 companies did have the sheets for all dangerous products, 35% had sheets for only some of the dangerous products and 19% of the companies did not have any sheets at all.⁴ Besides the presence of the sheets the inspectors looked at more substantial requirements. The labour inspectorate described the conclusions of this project as 'rather dramatic'. When checking the requirement to distribute a sheet with the first deliverance of a product, the requirement to use the national language and the requirement to mention the correct date of distribution, only 21% of the companies were in compliance with the SDS legislation. The labour inspectorate did not

check the content of the 16 headings in the sheets.

Since the results were rather bad – some companies had never heard of the obligations – the labour inspectorate decided (in co-operation with the ‘Association for Dutch Chemical Industry’) to organise a few ‘information days’ for companies in 1995 to explain the SDS requirements. These information days formed the end of the project by the labour inspectorate. Normally, the inspectorate would have planned a re-check after a few years. However, in this case it did not find this necessary since the inspectorate for the environment started enforcing this legislation in 1997.

As the number of recently involved labour inspectors (four) shows, since the project in 1994 the enforcement of the SDS legislation has not been one of the official aims of the labour inspectorate. The attention that is still being paid to safety data sheets is only reactive in nature. Whenever the labour inspectorate receives a complaint on this topic, which is not very often, one of the four inspectors who are appointed as specialists in this area is sent to the company to check the sheets.

Some inspectors are more interested in safety data sheets than others are and the attention paid to this topic depends on the person of the inspector. At least one of the labour hygienists responded to be interested in the

After one special project, the labour inspectorate now hardly enforces the topic of safety data sheets. Attention for this topic depends heavily on the interest of individual inspectors.

subject. This inspector mainly tries to make users aware of the existence of the sheets and tries to make these companies actually use their sheets to improve the company’s safety. This activity can not be seen as actual enforcement of the directive since there is no practice of checking the level of compliance of the compilers of the sheets.

c) Inspectorate for the Environment

After the transposition of the first European SDS directive in the Netherlands, the environmental inspectorate did not pay any attention to its enforcement.⁵ The attention for this subject was only triggered when the second European directive was transposed. This second directive emphasised the environmental aspects within a safety data sheet more than the first directive did and therefore the involvement of the environmental inspectorate seemed appropriate.

The inspectorate for the environment arranges all its enforcement activities in special projects. The topic of safety data sheets is integrated in special projects on ‘hazardous substances’. Since 1997, almost every year there has been a special project concerning hazardous substances in which the SDS directive was one of the topics to be checked. Per project, one inspector can normally visit 10 to 15 companies. For one visit the inspectors have about two to four days: preparation, sending a letter to notify the company, the visit itself (usually half a day or one day), follow-up visit and if necessary sanctioning activities. The number of sheets checked per company differs per inspector: it can vary from three to ten sheets. A couple of these sheets will be taken to the office for further investigation of the content under the 16 headings. The inspectorate for the environment set up a tool in order to achieve uniform enforcement throughout the country: the ‘Enforcement Execution Method’.⁶ It, in 40 pages of which 14 are applicable to safety data sheets, describes the entire enforcement practice in three phases: preparation, inspection and after-care. For each of these three phases the method provides a checklist of things to do. A special computer programme that inspectors

can use for a complete inspection accompanies this method. All inspectors who enforce safety data sheets are expected to use this method during the inspections.

Besides this method, environmental inspectors use a guideline set up by the external consultant agency 'Haskoning': 'Guideline Inspection Safety Data Sheets'.⁷ This guideline is rather extensive with its 60 pages and it provides a checklist and a proposed enforcement strategy. For every single

heading it contains a number of questions, 86 questions in total, of which the answers will show whether a safety data sheet complies with the Annex of the European directive. The inspectorate also has a contract with 'Haskoning' to check sheets for them if necessary.

The first project of the environmental inspectorate with a focus on the SDS legislation started in 1997 and was called the 'Hazardous Substances Act Integration Project'.⁸ In this project six Dutch decrees based on the 'Hazardous Substances Act' were checked at the same time: amongst others the 'Decree Assessment and Containment Risks Existing Substances', the 'Decree Import and Export Hazardous Substances' and the 'Safety Data Sheets Decree'. The reason for this integrated approach was that companies complained about multiple visits from the environmental inspectorate with a focus on the same sort of obligations. In this project 98 manufacturers and suppliers of dangerous products were visited. In total 336 substances and preparations were checked for the presence of a safety data sheet, the use of the Dutch language and the presence of the required 16 headings. In almost all cases the sheet was present (of the 336 substances and preparations checked, only one sheet was missing), in the Dutch language (94%) and foreseen of 16 headings (97%).

In general, the first project of the environmental inspectorate showed quite good results. A remark has to be made, however. This project only focused on the presence of the sheets, the use of the Dutch language and the presence of the 16 headings. This does not say anything about the content and the quality of the sheets. Therefore the inspectorate asked the external consultant agency 'Haskoning' to check the content and quality of some of the sheets. Haskoning checked 160 sheets of 42 companies with the help of their own guideline.⁹ The most important conclusion was that safety data sheets in the Netherlands are too general. It seemed that when looking at the content of the 16 headings only 14% of the sheets scores sufficient.

The results of the study by Haskoning showed that a focus on the content of sheets was necessary in the future. Therefore the second project in which safety data sheets were enforced showed a focus on the content. From April to November 1999 there was a project with a focus on chemical wholesalers.¹⁰ The reason for a focus on traders was that the previous project showed that in general traders showed a worse compliance practice than manufacturers did. Traders often do not engage experts, show more attention for the actual trade and find environmental regulations complicated and superfluous. Again, the SDS decree was only one of the six decrees that were checked. 33 traders were visited in this project and 120 substances and preparations were checked. For these 120 substances and preparations, 119 sheets were present, 100 of these were in Dutch and 116 contained all 16 headings. Again,

Enforcement Execution Method, page 38-39.

Six steps during an inspection:

- 1) Select a number of dangerous products.
- 2) Check whether there is a sheet available for each product.
- 3) Check whether the sheets contain 16 headings.
- 4) Check whether the sheets are available in Dutch.
- 5) Check whether the sheets comply with the requirements regarding the symbols and the R- and S-sentences. (= risk and safety sentences)
- 6) Crosscheck the labels with heading 15.

all general requirements were complied with. Within 20 companies, also a check of the content of the sheets was made. The focus was mainly on headings 1, 2, 8 and 15. Only three of the 20 companies produced good safety data sheets and the others showed shortcomings in the content: 71% of the sheets showed an incomplete or incorrect content. The project showed that members of an industry association produce better sheets than the unorganised suppliers do. Many wholesalers were not aware of their responsibilities and blamed their own suppliers for incorrect sheets.

The third project in which the environmental inspectorate checked safety data sheets focused on the production chain.¹¹ In this project, the inspectorate conducted a chain research between November 1999 and April 2000 within 16 chemical manufacturers and wholesalers. It was checked to what extent certain information, such as labels and safety data sheets, were correctly passed on in the production chain. The entire project showed that the compliance rate was unsatisfying; in 81% of the companies infringements were found. Of the 16 companies inspected, 13 needed to comply with the SDS directive. In these 13 companies, 64 products were checked. All sheets were present for these products and they all contained 16 headings. Only 8% of the sheets were not available in Dutch. Again these general requirements were complied with rather well. Problems arose when looking at the required content of the 16 headings. Within 31 sheets (48%) infringements were found regarding the content.

The enforcement projects by the environmental agency show that Dutch companies comply well with general requirements (presence, 16 headings, Dutch language), but have problems with the content of the specific headings.

Since the safety data sheets requirements, especially the content of the 16 headings, are not yet complied with properly in the Netherlands, the project leader responsible for hazardous substances policy decided that the sheets will remain a part of future projects for quite some time.

d) Companies

Of the 20 Dutch companies that completed the questionnaire 11 have been visited for safety data sheets: five have been inspected once and six have been inspected two to five times. The length of the visits was half a day (about 4 hours) in most cases. Generally speaking, the entire inspection was not focused on safety data sheets alone; inspectors checked other legislation as well. Most companies were inspected by the environmental inspectorate and only a few by the health or labour inspectorate. A few companies were inspected for safety data sheets by more than one enforcement agency. These companies did not notice any differences between the agencies in how they enforce this topic.

5.2.3 Sanctioning practice

Since the three agencies enforce the topic of safety data sheets independently, there are differences in the ways in which they (are able to) sanction possible infringements.

a) Inspectorate for Health Protection and Veterinary Public Health

Controllers of the health inspectorate can inspect at location, check files, take samples and conduct laboratory research. When they notice an infringement, they have the opportunity to use an oral or written warning or, in more serious cases, a warrant. In case of direct danger to consumers, controllers may order the company to return already sold products. As a final resort, companies can even be closed down for a shorter or longer period.

Table 5.2: Inspections in the Netherlands (answers in percentages; number of respondents in brackets)¹²

	Labour	Environment	Companies
Active enforcement.	1994-1997: yes 1997-...: no	yes (since 1997)	
Inspections are outsourced.	0 (3)	0 (5)	
Number of inspectors per inspection.	1	1	
Number of companies inspected per year for SDS:	(3)	(5)	
• 1-5	100	0	
• 5-10	0	40	
• 10-15	0	60	
Number of sheets that are checked per visit:	(3)	(5)	
• 0	33	0	
• 1-5	33	40	
• 5-10	33	60	
Focus of the inspections?	(3)	(5)	(11)
• only on SDS	0	0	27
• also on other legislation	100	100	73
Inspectors use an inspection-plan:	(3)	(5)	
• yes, followed strictly	0	60	
• yes, possible to deviate	0	40	
• no	100	0	
Inspectors are free to decide what to inspect:	(3)	(5)	
• strict format	0	20	
• loose format	67	80	
• free to decide	33	0	
Inspectors use inspection tools.	differs per inspector	100 (5)	
The average length of a company-visit is ...	(3)	(5)	(10)
• < 1 day	100	100	80
• 1 day	0	0	20
• > 1 day	0	0	0
Total number of man-days per inspection.	0,5	0,5	
Total workload inspectors per company (in man-days).	0,5-1,5	2-4	
How often can a company expect to be visited for SDS:	(2)	(5)	
• annually	0	0	
• once every 2-5 years	50	40	
• less than once every 5 years	50	60	
How often has your company been inspected for SDS?			(20)
• never			45
• once			25
• 2-5 times			30
There are differences between the enforcement agencies during the inspections.			0 (11)

Seen the situation that health controllers do not officially enforce the topic of safety data sheets, it is hardly surprising that they do not sanction companies for non-compliance either. None of the five questionnaire respondents ever sanctioned for safety data sheets and none of them expect to do so in the future. They do sanction for wrong labels. Incorrect labels are found rather often and in most of these cases the sheets are wrong as well. Companies are then only sanctioned for their labels, but the controllers notice that companies automatically also change the sheets when they adjust their labels. The controllers do not notify one of their colleagues from the labour or environmental inspectorates when they find a wrong sheet.

Health controllers do not sanction for incorrect or missing sheets, only for incorrect or missing labels. However, companies often adjust their sheets when sanctioned for their labels.

b) Labour Inspectorate

The labour inspectorate can use both criminal and administrative instruments. The main criminal instrument that can be used is the warrant. Possible administrative instruments are agreements or warnings, demands to comply, the opportunity to close down an establishment and, since 1999, the administrative fine.¹³

During the special project in 1994, despite the bad results, the labour inspectorate did not use official sanctions. Since it was the first project on safety data sheets in the Netherlands, the labour inspectorate had the main intention to educate companies. Therefore, it sent out warning letters with the exact items that needed correction and a term within which the corrections had to be made. Companies responded to this rather well and thus there was no need for stricter measures.

Nor is strict enforcement common in the recent reactive enforcement phase. The focus nowadays is more on users instead of compilers and this group cannot be sanctioned when they do not use the sheets. The SDS directive only concentrates on the compilers and therefore this group alone can be sanctioned for non-compliance. The four labour inspectors never impose any sanctions for safety data sheets. They sometimes give suggestions for improvements, but they will not set a time within which the sheets must be corrected. Wrong sheets are not reported to the environmental inspectors in order to make sure that they will sanction infringements.

Nowadays labour inspectors focus on the users of sheets instead of on compilers. This group cannot be sanctioned for not using the sheets

c) Inspectorate for the Environment

As the labour inspectorate, the environmental inspectorate can use criminal law (a warrant) or administrative law (a warning, a penalty or even the opportunity to close down an establishment). These two forms of law can be used together if necessary. In practice, the environmental inspectorate uses a penalty for infringements that can still be ceased; for example a sheet in English or a sheet with only 15 headings instead of 16.¹⁴ A penalty is used as a threat to undo an infringement. Infringements that cannot be ceased anymore are sanctioned by a warrant only.¹⁵ Severe infringements are sanctioned by a combination of a penalty and a warrant. The warrant is then used to punish the company and the penalty to force the company to undo the infringement.

Besides being an inspection tool, the 'Enforcement Execution Method' also describes possible infringements and their complementary sanctions. For the SDS directive it divides the possible infringements into 'essential' and 'normal' infringements. Essential infringements can be sanctioned by a warrant and thus have to be communicated with the public prosecutor. The environmental inspectors always use this method when deciding to sanction or not. There is some room for discretion, however. Inspectors do have a chance to look at specific circumstances. In those cases the project leader will be contacted for advice. For example, if a company only has one sheet in English while the rest is in Dutch and they have a good explanation for this, it is likely that this company only receives a warning.

Enforcement Execution Method, page 12-13.

Essential infringements related to safety data sheets:

- Missing of a sheet: both a warrant and a penalty.
- No 16 headings: both a warrant and a penalty.
- Content of the 16 headings not sufficient: depending on which heading a letter with a warning for a milder infringement and a warrant and a penalty for a severe infringement.
- Sheet not in Dutch: depending on the number of sheets not in Dutch a warrant and penalty for multiple sheets and just a penalty for only one or a few sheets.
- Missing of the label: both a warrant and a penalty.

During the first project in 1997-1998 no formal sanctions were used. When inspectors noticed an infringement they only warned this company. The second project by the environmental inspectorate in 1999 on wholesalers showed a more strict approach. Since the directive already existed for a while the inspectorate expected industry to comply. After the inspections, the companies with incomplete and incorrect sheets received a letter that described the necessary improvements and a term within which things had to be improved. Warrants were drawn up for three companies.¹⁶ In addition, eleven companies received an intention to impose a penalty. All companies responded to this and none actually had to pay a fine. The third project again showed infringements: this led to one warrant and five intentions to impose a penalty. Again the penalties did not result in actual fines since the companies improved their sheets before the final deadline.

d) Companies

In none of the six companies that were interviewed infringements related to safety data sheets were found. Of the 20 companies that completed the questionnaire, 11 were inspected for safety data sheets. In only three of these inspected companies infringements were detected. Of these three companies, two received a warning so they could undo the infringement. One of the two warned companies was able to solve the problem. The other one was not and this company – as well as the company that did not receive a warning first – received a warrant. Thus two of the 20 respondents received a warrant for not complying with the safety data sheets legislation. In both occasions, the inspectorate for the environment was the enforcement agency that imposed the warrant. One company had to pay a sum of 450 euro and the other company had to pay a sum of 2.300 euro.

Table 5.3: Sanctioning practice in the Netherlands (answers in percentages; number of respondents in brackets)

	Inspectors ¹⁷	Companies
Frequency of sanctioning:	(8)	
• never	12	
• 0-25%	38	
• 25-50%	12	
• 50-75%	38	
• 75-100%	0	
Frequency of warning before imposing a sanction:	(8)	
• never	12	
• 0-25%	50	
• 25-50%	0	
• 50-75%	12	
• 75-100%	25	
Types of instruments used most often.	- warrant - penalty	
Percentage of inspectors who consider the following circumstances:	(8)	
• company size	0	
• severity infringement	100	
• costs to undo infringement	0	
• financial situation	0	
Inspectors consider...		
• company-specific circumstances	37 (8)	40 (10)
• compliance costs	0 (8)	30 (10)
The decision to impose sanctions is made by...	(8)	
• me (inspector)	0	
• enforcement agency	37 (labour)	
• jointly (inspector + agency)	0	
• manual	63 (environment)	
Percentage of respondents where a violation was found.		15 (20)
Percentage of detected respondents that received a warning first.		66 (3)
Percentage of respondents that received a sanction...		
• of all respondents		10
• of the detected companies		66

5.2.4 *Relationship between inspectors and companies*¹⁸

The relationship between inspectors and companies in general is considered to be good by both parties. However, the company respondents do have much critique on the latest projects by the environmental inspectorate. These projects, where some companies received warrants and intentions to lay down a penalty, stirred up bad feelings within the companies.

Especially the formal tone of the letters and the fact that the letters were also sent to third parties, such as the municipalities, made a wrong impression. This led to the situation in which third parties became involved in aspects that, according to the companies, only were of minor importance. The formal letters mentioned infringements that were totally blown out of proportion. One company mentions a discussion on a minor aspect such as the place of the date on the sheets.

Even though the relationship is positively evaluated, not all respondents are convinced that the inspections are based on co-operation. Dutch inspectors do not consider it to be necessary to have a good relationship with the regulated in order to be able to enforce this topic. Safety data sheets can also be checked without a good relationship with the companies, as one respondent stated.

Discussions are considered to be important by both parties (although slightly more by companies), however, discussions on the content of the safety data sheets directive do not take place very often. The giving of advice does not seem to be a normal part of the relationship between inspectors and companies. According to the interviewees (inspectors) especially smaller companies often ask for advice. Inspectors will give some general tips but for detailed questions they will refer the companies to the contractors known in the Netherlands that make the sheets. Inspectors are there to check the sheets, not to make them.

Table 5.4: Relationship between inspectors and companies in the Netherlands (answers in percentages; number of respondents in brackets)

	Inspectors		Companies	
Relationship in general				
• The relationship is good.	100	(8)	90	(10)
• The inspections are based on co-operation.	63	(8)	50	(10)
• There is a formal atmosphere.	75	(8)	70	(10)
Room for discussion / advice				
• Discussion is important.	63	(8)	80	(10)
• There often is discussion on the content of legislation.	50	(8)	30	(10)
• Inspectors often give advice.	37	(8)	56	(9)
Dependency inspectors on companies				
• A good relationship with companies is necessary for good enforcement.	25	(8)		
• I am dependent on companies for obtaining information.	63	(8)		

5.3 Germany¹⁹

5.3.1 Introduction

In Germany, both inspectors of the nationally organised ‘German Institution for Statutory Accident Insurance and Prevention’ (‘Berufsgenossenschaften’: ‘BG’s’) and inspectors in the 16 Länder execute the enforcement of the safety data sheets directive. In North-Rhine Westphalia the ‘Regional Agency for Labour Protection’ (‘Staatliches Amt für Arbeitsschutz’) is responsible for the enforcement. In both Baden-Württemberg and Bavaria this is the ‘Factory Inspectorate’ (‘Gewerbeaufsichtamt’).

As all German occupational safety and health legislation, the enforcement of the SDS directive is arranged according to a so-called ‘dual system’. Legislation in this particular policy area comes from both the federal and Land governments and from the ‘BG’s’. This leads to a dual system of enforcement: there are governmental inspectors, organised per Land, and BG inspectors. Since the enforcement of legislation on the governmental side is delegated to the Länder, there are 16 different governmental enforcement authorities, while there is one national BG enforcement authority. This means that companies have a chance of being visited for their compliance with the safety data sheets directive – as well as for all other occupational safety and health legislation – by both the Land authority and the BG authority. BG and Land inspectors do not co-operate while executing SDS (or any other) inspections.

The ‘Berufsgenossenschaften’ is a national organisation organised per sector; in total there are 35 BG’s organised per sector (for example metal, construction, textile and leather) and not per Land. The responsibility for the topic of safety data sheets lies with the ‘Berufsgenossenschaft der chemischen Industrie’; in short ‘BG Chemicals’. Within ‘BG Chemicals’ there are approximately 100 inspectors who, throughout the country, are responsible for all German chemical companies. These inspectors only spend a very small percentage of their time on the inspection of safety data sheets; the time devoted to this topic is estimated to be less than 5%.

In North-Rhine Westphalia, in all 12 local offices of the ‘Regional Agency for Labour Protection’, approximately 400 to 500 inspectors are working who can all, in theory, enforce the topic of safety data sheets. These general inspectors only spend a very small percentage of their time (less than 5%) on the enforcement of this topic. Of these 400 to 500 inspectors approximately 70 work in a department specialised in hazardous substances. These inspectors spend a little more time on enforcing the SDS directive.

All 650 inspectors who work at the Factory Inspectorate in Baden-Württemberg can check safety data sheets within companies. There are no statistics available on how much time inspectors generally spend on enforcing this subject, but the rough estimate of less than 5% is made.

Finally, in Bavaria there are 490 inspectors in total in the Factory Inspectorate. The larger part of them is formed by general inspectors (440) who can check safety data sheets but will rarely do so. The remaining 50 inspectors work for a special unit focused on dangerous substances. They serve the general inspectors as partners to whom they can turn with questions regarding the topic of hazardous substances. These inspectors are more likely to check safety data sheets.

Table 5.5: General organisation in Germany

	BG	NRW	BW	BAV
Number of inspectors.				
• general	100	330-430	650	440
• specialised in hazardous substances		70		50
Inspectors work part-time or full-time on SDS (in percentages).				
• general	< 5%	< 5%	< 5%	< 5%
• specialised in hazardous substances		5-10%		5-10%
Actual contact between inspectors of different agencies.	never			
Are the enforcement agencies expected to co-operate during the inspection?	no			

The general organisation of SDS enforcement in the three Länder is comparable. In all three Länder there is one occupational safety and health agency that is responsible for the enforcement. Equally, in all three situations a high number of inspectors (approximately 500) is in theory responsible for the enforcement, but these inspectors only devote a very small percentage of their time to this topic. Only in North-Rhine Westphalia and Bavaria there are smaller units specialised in hazardous substances where the focus on SDS is somewhat larger.

In the Länder, large numbers of inspectors can in theory be responsible for safety data sheets, but in practice they only spend a fraction of their time on this topic.

5.3.2 Inspections

a) *Berufsgenossenschaften*

Since the BG's are organised per sector and not per Land, the enforcement by 'BG Chemicals' is the same throughout Germany. The respondents claim that there are no differences in how the compliance with occupational safety and health legislation in general, and the safety data sheets directive in specific, is checked by BG inspectors in all 16 Länder.

There are two ways of carrying out inspections within 'BG Chemicals'. On the one hand there are special projects. In these cases, all 100 inspectors check the same topic within all chemical companies in Germany. Up until the summer of 2001, there have been no special projects on safety data sheets within 'BG Chemicals'. On the other hand, which is more common, inspectors decide themselves what has to be inspected. These sort of inspections are based on so-called 'key blocks' ('Schlüsselbausteinen'). This means that inspectors start with checking standard items, a superficial screening. They will only look into details whenever they notice that things look suspicious or whenever they find errors. The standard questions in this screening change each year. Safety data sheets have not yet been an item in one of these key blocks. Thus neither of both types of inspection approaches show a special focus on safety data sheets. Whenever the BG inspectors do come across the sheets, they are more concerned with the usage of the sheets by the receivers – a topic that is not regulated by the directive and therefore not enforceable – than they are with the correct compilation by the suppliers.

b) *North-Rhine Westphalia*

North-Rhine Westphalia was one of the first Länder to focus a special project on safety data sheets in 1995. In this project, 522 companies were inspected and 2479 safety data sheets were checked. In 29 of the 522 companies (5%), no safety data sheets were available at all. This project did not so much focus on the content of the sheets, but more on general aspects such as presence, the use of the German language and the use of 16 headings. There was no special inspection tool that inspectors could use.

Since this special project, during regular inspections, the topic of safety data sheets does not have a high priority.²⁰ Nowadays, inspectors themselves decide whether it is necessary to check the sheets or not. There is no standard procedure for checking the sheets. Inspectors are only likely to deal with this topic in case of obvious infringements. The 400 to 500 general inspectors are responsible for a number of companies in which they check all occupational safety and health legislation. Since this is quite a large amount of legislation, inspectors do not come across safety data sheets often. If inspectors do notice an infringement related to the sheets they ask one of their 70 colleagues of the hazardous substances departments for help.

c) Baden-Württemberg

In the months September, October and November of 2000 there was a special project on dangerous substances and preparations. Baden-Württemberg participated in this project that was co-ordinated by the 'Federal Institute for Occupational Safety and Health' ('Bundesanstalt für Arbeitsschutz und Arbeitsmedizin'). The project focused on hazardous substances and safety data sheets was one of the six items that were enforced. The inspectors in the Länder were advised to use a federal guideline: 'Technical Rules for Hazardous Substances 220 – Safety Data Sheet for Hazardous Substances and Preparations'.²¹ This rule – which is meant for both inspectors and companies – gives a general explanation of the obligations and it describes the contents under the 16 headings. Besides this national guideline, the factory inspectorate set up a small checklist for inspectors to use during the inspections. In this project, 237 companies were inspected. Only in 58% of these companies, the safety data sheets were available.

Since this project inspectors have more expertise in the area of safety data sheets and they now have a checklist they can use. It therefore is likely, according to a respondent, that inspectors during regular inspections will now pay more attention to this topic of safety data sheets than they did before. However, no information is available on how much attention inspectors generally pay to this topic during the enforcement. All inspectors are responsible for a number of companies and they have to enforce all occupational safety and health, environmental and waste legislation within these companies. The topic of safety data sheets is but one of the many items inspectors can pay attention to and it thus depends on the person of the inspector to what extent this topic is touched upon during regular inspections.

Checklist Baden-Württemberg. Questions related to heading seven on handling and storage:

- (1) Are references to safe handling available?
- (2) Are references to the fire and explosion prevention available?
- (3) Are references to the storage available?

d) Bavaria

As Baden-Württemberg, Bavaria also participated in the project. From August to October 2000, inspectors of the specialised dangerous substances units in Bavaria organised an inspection of producers, importers and traders of dangerous substances and preparations. During this project, 52 companies and 132 sheets were checked. The inspections usually lasted half a day and focused especially on the system used to compile the sheets. Important questions were whether companies had a good system for compiling and distributing the sheets, whether companies regularly update the sheets and whether they actually supply their updated versions. There was a checklist with all these questions to help the inspectors during the inspections.

Since this project, inspectors only pay attention to safety data sheets during routine inspections. However, during these routine inspections, the inspectors have to check all legislation the factory inspectorate is responsible for. There is no information available on what time they spend on what legislation. As in Baden-Württemberg it is expected that safety data sheets will receive more attention since the special project.

Table 5.6: Inspections in Germany (answers in percentages; number of respondents in brackets)²²

	NRW	BW	BAV	Companies
Active enforcement.	no (1 project in 1995)	no (1 project in 2000)	no (1 project in 2000)	
Inspections are outsourced.	no	no	no	
Number of inspectors per inspection.	1	1	1	
Number of companies inspected per year for SDS.	depends on interest inspector	depends on interest inspector	depends on interest inspector	
Number of sheets that are checked per visit.	not known	not known	not known	
Focus of the inspections?				(8)
• only on SDS	0	0	0	12
• also on other legislation	100	100	100	88
Inspectors use an inspection-plan:				
• yes, followed strictly	0	0	0	
• yes, possible to deviate	0	0	0	
• no	100	100	100	
Inspectors are free to decide what to inspect:				
• strict format	0	0	0	
• loose format	0	0	0	
• free to decide	100	100	100	
Inspectors use inspection tools.	no	checklist	checklist	
The average length of a company-visit is ...				(8)
• < 1 day	100	100	100	88
• 1 day	0	0	0	12
• > 1 day	0	0	0	0
Total number of man-days per inspection.	0,5	0,5	0,5	
Total workload inspectors per company (in man-days).	1-2	1-2	1-2	
How often can a company expect to be visited for SDS?	depends on interest inspector	depends on interest inspector	depends on interest inspector	
How often has your company been inspected for SDS?				(19)
• never				58
• once				26
• 2-5 times				16
There are differences between the enforcement agencies during the inspections.				not applicable

e) Companies

Of the three companies that were interviewed two were never inspected for safety data sheets. The third company (Baden-Württemberg) responded that this topic is a part of the regular inspection that takes place once a year. It thus seems that the personal interests of inspectors are important: apparently an inspector who finds this topic important inspects this company. Of the 19 companies that completed the questionnaire, only less than half have been inspected for the topic of safety data sheets. The inspections are not equally divided over the three Länder: in Baden-Württemberg 67% of the respondents were inspected for safety data sheets, whereas in North-Rhine Westphalia only 29% and in Bavaria only 33%. In all but one cases, the inspections were executed by the Land inspectors and not by the inspectors of the 'Berufsgenossenschaften'. Usually the length of the visit was half a day and in all but one cases the inspection also focused on other legislation.

In general, BG inspectors do not enforce the topic of safety data sheets as such. They focus more on the usage of sheets by companies, a topic that is not enforceable according to the directive. The inspectorates in the three Länder do not show many differences in their systems to enforce this directive. Normally, inspectors are responsible for a geographical area or a number of companies and they check all legislation their agency is responsible for. In general, safety data sheets is not a topic of high importance that is regularly checked. All three Länder already had a special project in which safety data sheets was one of the points of attention. Since these projects the enforcement of this subject depends on the inspectors themselves. The inspectors have more legislation to check and the amount of time spent on safety data sheets depends on their time and interest.

All three Länder had one special project related to safety data sheets. Since then, enforcement of this topic depends on the time and interest of individual inspectors and is not expected to be frequent.

5.3.3 Sanctioning practice

In first instance, the BG inspector tries to advise companies on how to comply with occupational safety and health legislation in a correct manner. When serious infringements are detected, BG inspectors can serve a written order ('Anordnung'), stop the production processes, or even prosecute employers (fines are thinkable up to 10.000 euro). BG inspectors mainly focus on the usage of the sheets by the receivers; a topic that is not enforceable since the European directive does not oblige the receivers of the sheets to actually use them. What is enforceable – the correct compilation and distribution by the suppliers – is not checked by BG inspectors. There are, therefore, no examples of BG inspectors imposing sanctions with respect to non-compliance or infringements in the area of safety data sheets.

There are several sanctioning possibilities for governmental inspectors that are the same throughout Germany. An inspector can use a 'revision-letter' in which the legal problems are addressed and time is given to solve these problems. Generally, according to the interviewees, companies respond to these letters. If the company is not willing to take action, inspectors can charge the company with a penalty or take legal action. In extreme cases they can even close down a company. In North-Rhine Westphalia and Baden-Württemberg there are no examples of sanctions imposed for safety data sheets; not even during the special projects where the inspectors did come across infringements. In Bavaria there are some examples. During the project in 2000, of the 52 companies visited, 45 companies (87%) showed defi-

ciencies. Of these 45 companies, 15 (33%) were requested to cease the detected infringements in a written form (revision letter) and 30 (67%) were asked orally to do so. In 33 companies the inspectors gave advice on how to improve the system to compile the sheets. All companies responded to these warnings and inspectors did not have to impose penalties. Thus, formal sanctions for non-compliance with the SDS directive are uncommon in Germany. For safety data sheets no severe sanctions have been used up until now.

Table 5.7: Sanctioning practice in Germany (answers in percentages; number of respondents in brackets)

	Inspectors	Companies
Frequency of sanctioning.	some in Bavaria, none in the two other Länder	
Frequency of warning before imposing a sanction.	normally inspectors will warn first	
Types of instruments used most often.	Bavaria: revision letter / oral advice	
Percentage of inspectors who consider the following circumstances: <ul style="list-style-type: none"> • company size • severity infringement • costs to undo infringement • financial situation no information available 	no information available	
Inspectors consider... <ul style="list-style-type: none"> • company-specific circumstances • compliance costs 	no information available	70 (10) 30 (10)
The decision to impose sanctions is made by... <ul style="list-style-type: none"> • me (inspector) • enforcement agency • jointly (inspector + agency) • manual 	no information available	
Percentage of respondents where a violation was found.		16 (19)
Percentage of detected respondents that received a warning first.		66 (3)
Percentage of respondents that received a sanction... <ul style="list-style-type: none"> • of all respondents • of the detected companies 		11 66

Companies confirm this irregularity of sanctioning. None of the three companies that were interviewed ever received a sanction for safety data sheets. Of the eight questionnaire respondents that were inspected for this topic, three companies showed infringements (two in Bavaria and one in North-Rhine Westphalia). In two of these three companies, the inspectors sanctioned for the infringement that was detected. Both sanctions were imposed in Bavaria by the factory inspectorate. Both companies had to pay a fine: one of 150 euro and one of 1.025 euro.

5.3.4 *Relationship between inspectors and companies*

Both inspectors and companies consider their relationship with each other to be good but formal. Discussions form an important part of the inspection and the inspections take place on basis of co-operation. Even though discussions are important, there is not often discussion on the content of the safety data sheets legislation. All companies agree that inspectors give quite some advice on how to comply with the legislation.

Table 5.8: Relationship between inspectors and companies in Germany (answers in percentages; number of respondents in brackets)

	Inspectors	Companies	
Relationship in general			
• The relationship is good.	yes	100	(10)
• The inspections are based on co-operation.	not known	100	(10)
• There is a formal atmosphere.	yes	90	(10)
Room for discussion / advice			
• Discussion is important.	not known	100	(10)
• There often is discussion on the content of legislation.	not known	40	(10)
• Inspectors often give advice.	yes	100	(10)
Dependency inspectors on companies			
• A good relationship with companies is necessary for good enforcement.	not known		
• I am dependent on companies for obtaining information.	not known		

5.4 **Great Britain**²³

5.4.1 *Introduction*

In Great Britain, two enforcement agencies are responsible for the enforcement of the safety data sheets legislation. The main enforcement actor is the ‘Health and Safety Executive’ (HSE). The ‘Trading Standards Institute’ (TSI) is the second agency with competencies in this area. In theory both organisations enforce the SDS directive. In practice, however, only the HSE inspectors actually pay attention to this topic. The ‘Trading Standards Institute’ has approximately 3.000 officers who are in charge of inspections. The respondent from the TSI estimated that these officers – if they spend any time at all to this topic – only spend less than 1% of their time to safety data sheets. Inspectors from both organisations are not expected to co-operate on the SDS enforcement. Nor is there contact between inspectors from both organisations on the topic of safety data sheets.

Within the HSE, two specific departments are responsible for the SDS enforcement: the general inspection department with 600 inspectors (‘Field Operations Directorate’ – FOD) and the department that is specialised in hazardous installations with about 120 inspectors (‘Hazardous Installations Directorate’ – HID). Within both departments, interviewees found it hard to estimate the amount of time inspectors generally spend on the enforcement of safety data sheets; both respondents mentioned that the time spend on this topic is likely to be less than 5%. However, as they both stressed, there might be individual inspectors who find

this topic important and thus spend more time on its enforcement.

The northern region of the HSE organised a special enforcement project on safety data sheets. The twenty inspectors who participated in this project spent, at the time of conducting the inspections, more time on safety data sheets than HSE inspectors in general do. Especially the project leader spent a considerable amount of his time on the enforcement of this topic.

Table 5.9: General organisation in Great Britain

	TSI	HSE-general	HSE-project
Number of inspectors.	3.000	720	20
Inspectors work part-time or full-time on SDS.	< 1%	< 5%	< 25%: 86% 25-50%: 14%
Actual contact between inspectors of different agencies.	never		
Are the enforcement agencies expected to co-operate during the inspection?	no		

5.4.2 Inspections

a) Trading Standards Institute

The main reason why ‘Trading Standards Officers’ are not enforcing the SDS directive is that they are mainly responsible for companies that have nothing to do with safety data sheets. Of all companies that the officers visit, retail outlets are the group of companies that are most likely to have the sheets. However, there is only a small number of retail outlets (e.g. hardware superstores that supply chemicals) that deals with these sheets. The officers do have responsibility for safety data sheets within these retail outlets, but in practice they will not concentrate on this aspect.

Trading Standards Officers generally speaking do not enforce the safety data sheets directive.

The officers are mainly responsible for consumer products and thus the only occasion in which they might come across safety data sheets is in case of wrong labels on consumer products. In case of a wrong label, the officer might use the safety data sheet to check this. Safety data sheets are of minor importance when looking at consumer products. After all, according to the EU directive, suppliers are not obliged to give the information stated in the sheets to consumers. The directive is only applicable to professional users and the trading standards officers not very often deal with these professional users.

b) HSE – ‘during regular inspections’

Within the HSE, enforcement activities related to safety data sheets are different when looking at FOD and HID inspectors. FOD inspectors pay more attention to the users of sheets and not so much to the suppliers. The HID – dealing with major hazard companies – is more likely to inspect the group of suppliers. In general, for both groups of inspectors, it can be said that it is very dependent on the person of the inspector whether and to what extent safety data sheets will be checked. All HSE inspectors are general inspectors who take all occupational safety and health legislation into account. There are no inspection-plans that speci-

fy what legislation inspectors have to check and what amount of time they must spend on what topic. Whenever they visit a premise they can and may look at all aspects under the 'Health and Safety at Work etc Act 1974' and its underlying regulations. This leads to the situation in which it is up to the inspector whether to look into the subject of SDS or not. Some may look at the sheets occasionally; others may never look at them.

The amount of attention for SDS enforcement within the HSE depends on the interest of the individual inspector.

In case FOD inspectors do come across SDS-related infringements, they try to find out what (company) is the source of the problem. When there is no sheet available or when the data are poor, FOD inspectors try to locate the company that supplied the product and sheet at stake. They look up into the supply chain to find out where a product is coming from; they try to find out what manufacturer is causing the problem. Then the FOD inspector hands over this information to the HID inspector responsible for the region in which the supplier under suspect is located. The FOD and HID together, in this way, try to locate faults at the very start; the source of the problem is located.

Whenever the HID receives such a call from the FOD – which is not very often – they will pay a visit to the manufacturer to see what the problem is. In theory HID inspectors are more familiar with the subject of safety data sheets and know better what a sheet should look like than the FOD inspectors do. In practice, however, they hardly pay attention to this topic. Every HID inspector is responsible for a few major hazard companies and at the moment of conducting this research, spring 2001, the Seveso II directive was an important issue within these companies. This means that HID inspectors at that moment mostly focused on Seveso-related issues and not so much on other regulations. In general, as one respondent said, *'safety data sheets are not on top of everyone's list of things to do and not very much attention is paid to the enforcement of it'*.

c) HSE – 'Northern Region Project'

Up until spring 2001, there has been one specific project focused on safety data sheets within the HSE: the 'Northern Region Project' in 1997/1998. In 1996, when the second SDS directive was transposed, the HSE organised some seminars for companies to highlight the importance of the regulation and to explain the key requirements. One inspector in the northern region noticed that all companies attending these seminars were the already committed companies; the companies that already knew about the regulations and were considered to be good compliers. The struggling companies were absent, however. Therefore this inspector decided to start a project on safety data sheets to reach the more struggling companies: the 'Northern Region Project'.

In the four cities of the northern region (Bradford, Preston, Sheffield and Nottingham) breakfast seminars were organised. Smaller companies in this region were invited to these breakfast seminars from 7.30 till 9.30; this to enable people to still go to work afterwards. The seminar was compulsory; the inspectors would pay a visit to their site to inspect the sheets in case a company did not attend. The experience and knowledge of the companies was tested beforehand so the seminars could focus on those aspects that caused most problems. About 40 to 50 companies in total participated in these seminars. After the seminars, follow-up visits were planned. This helped the HSE to learn about even more companies they never visited before: *'People were ringing us up and said "if you are gonna ask me to do all of this and it is gonna cost me so much pounds, I can give you two others who are doing exact-*

ly the same as me down the street”.’ In total about 150 companies were visited for safety data sheets.

Approximately 20 HID inspectors were involved in this project. The HSE did not set up any special instruments, but inspectors were advised to use the ‘Approved Code of Practice’ on safety data sheets. This code of 14 pages is mainly meant for companies as guidance on how to compile a safety data sheet, however, inspectors also used it during the project to check the compliance.

Most inspectors involved in the project visited approximately five companies where they checked between one to five safety data sheets. Only the project leader visited more companies: he checked about 50 companies for their SDS compliance. The inspections generally focused on safety data sheets alone, however, in case of obvious other infringements the inspectors of course dealt with these problems as well. In general, the inspectors were free to decide how to enforce this topic. There was no specified inspection plan available. Almost half of the inspectors who participated in this project now claim to pay more attention to the topic of safety data sheets than they did before.

The only problem with this enforcement project was that it was only carried out in the northern region. The project leader was asked to turn this into a national project. However, at the moment the idea for a national project was finished, Seveso II absorbed all of the HID inspectors’ time. Most HID inspectors are responsible for a couple of upper tier Seveso II establishments and they have much work assessing all safety reports for these sites. For the next couple of years all HID inspectors are focused on Seveso II. More project-based attention and a more national approach of enforcing safety data sheets will most likely be available in the future again.

HID inspectors, at the moment, are directing almost all of their attention to the Seveso II directive. A low interest topic such as safety data sheets does not receive much attention, therefore.

d) Companies

The four companies that were interviewed were relatively large manufacturing companies. These are the types of companies that, in general, are likely to be visited quite often. Therefore, it is striking that none of these companies has been visited for the topic of safety data sheets up until now. The only occasion one company mentioned to have shown its sheets was when their site was investigated for an incident. In none of the companies has there ever been a real inspection of the sheets.

Of the 17 companies that completed the questionnaire, only six companies (35%) have ever been visited for safety data sheets. These visits generally lasted half a day. In all cases the inspectors also checked other legislation; there were no inspections focused on safety data sheets alone. The ‘Health and Safety Executive’ carried out all these inspections; the ‘Trading Standards Officers’ were never involved.

Table 5.10: Inspections in Great Britain (answers in percentages; number of respondents in brackets)²⁴

	HSE-general	HSE-project	Companies
Active enforcement.	no	yes	
Inspections are outsourced.	0	0	(7)
Number of inspectors per inspection.	1	1	
Number of companies inspected per year for SDS:	differs per inspector		(7)
• 1-5		57	
• 5-10		29	
• 10-15		14 ²⁵	
Number of sheets that are checked per visit:	differs per inspector		(7)
• 0		14	
• 1-5		72	
• 5-10		14	
Focus of the inspections?	(estimate)		(7)
• only on SDS	0	86	0
• also on other legislation	100	14	100
Inspectors use an inspection-plan:	(estimate)		(7)
• yes, followed strictly	0	0	
• yes, possible to deviate	0	0	
• no	100	100	
Inspectors are free to decide what to inspect:	(estimate)		(7)
• strict format	0	0	
• loose format	0	0	
• free to decide	100	100	
Inspectors use inspection tools.	not available	86	(7)
The average length of a company-visit is ...	(estimate)		(7)
• < 1 day	100	100	80
• 1 day	0	0	20
• > 1 day	0	0	0
Total number of man-days per inspection.	0,5	0,5	
Total workload inspectors per company (in man-days).	0,5	1,5-2	
How often can a company expect to be visited for SDS.	depends on interest inspector	not applicable	
How often has your company been inspected for SDS?			(17)
• never			65
• once			18
• 2-5 times			12
• 5-10 times			6
There are differences between the enforcement agencies during the inspections.			not applicable; only visited by HSE

5.4.3 Sanctioning practice

Trading Standards Officers are officially able to sanction for missing, incomplete or incorrect safety data sheets. As the above description of the inspection practice already showed, these officers do not enforce this subject. Therefore it may come as no surprise that the 'Trading Standards Institute' never sanctioned companies for the topic of safety data sheets as such.

British HSE inspectors have the right to enter all workplaces without prior notice. The inspectors can give advice, talk to employees, take pictures or samples and impose notices. The possibilities to sanction operators for not complying with the SDS legislation are based on the 'Health and Safety at Work etc. Act 1974'. Inspectors have the following sanctioning possibilities:

- Informal actions: when an infringement is very small the inspector can tell the company what to do to comply correctly. This advice can be written down.
- Improvement notice: a more serious infringement can lead to an improvement notice. This notice will first be discussed with the operator to see whether differences of agreement can be solved beforehand. The notice explains what has to be done, why and before when. The period of time a company is allowed to repair the infringement is at least 21 days. If the infringement is not ceased within the set time, the inspector can prosecute a company.
- Prohibition notice: imposing a prohibition notice that forbids a certain activity immediately or after a set period of time can sanction a serious infringement.
- Prosecution: decisions when and how to prosecute are laid down in the 'Enforcement Policy Statement' of the HSE. A failure to comply with an improvement or prohibition notice can lead to a fine as high as 32.000 euro or six months in prison before the magistrate's court. The most serious cases will be dealt with in crime court. The fines here can even be as high as one and a half million euro or more.

The 'Health and Safety Executive', during normal inspections, hardly focuses on safety data sheets. None of the respondents could mention examples of companies receiving a notice for non-compliance with the safety data sheets requirements during regular inspections.

The only examples of sanctions known are results of the Northern Region Project. In this project, almost all inspectors sanctioned at least some companies for non-compliance and the project leader sanctioned about 20 companies for SDS-related infringements. Half of the inspectors considered company size and costs to undo the infringement before they imposed a sanction. Almost all inspectors considered the financial situation of the company and the severity of the infringement. The sanctioning instrument used most often was the improvement notice.

Besides, three companies received a prohibition notice since the dangerous situations at their sites asked for this. In these three cases the companies were prevented from supplying their products before the sheets were corrected. In all cases the companies responded to these notices and corrected the infringements. The notices therefore did not lead to prosecution.

Report by the 'Health Directorate' of the HSE, page 6.

The five most occurring reasons for inaccuracies in safety data sheets during the project:

- 1) Lack of training for the compilers of the sheets.
- 2) Lack of clear guidance in the EU directive and national regulation.
- 3) Incorrect classifications because of wrong translations of US sheets into the EU format.
- 4) The usage of standard phrases that do not always reflect differences between workplaces.
- 5) The job of the compilation of sheets is seen as an inferior job within companies.

Table 5.11: Sanctioning practice in Great Britain (answers in percentages; number of respondents in brackets)

	Inspectors-project	Companies
How many companies did you sanction during the project:	(7)	
• 0	14	
• 1-3	72	
• > 3	14 ²⁶	
Frequency of warning before imposing a sanction:	(7)	
• never	0	
• 0-25%	29	
• 25-50%	14	
• 50-75%	43	
• 75-100%	14	
Types of instruments used most often.	improvement notice	
Percentage of inspectors who consider the following circumstances:		
• company size	43 (7)	
• severity infringement	100 (7)	
• costs to undo infringement	43 (7)	
• financial situation	86 (7)	
Inspectors consider...		
• company-specific circumstances	100 (7)	75 (8)
• compliance costs	28 (7)	37 (8)
The decision to impose sanctions is made by...	(7)	
• me (inspector)	43	
• enforcement agency	0	
• jointly (inspector + agency)	14	
• manual	43	
Percentage of respondents where a violation was found.		6 (17)
Percentage of detected respondents that received a warning first.		0 (1)
Percentage of respondents that received a sanction...		
• of all respondents		6
• of the detected companies		100

Of the 17 companies that completed the questionnaire, in only one company a violation related to the safety data sheets legislation was found. This company was not warned and immediately received an improvement notice that stated what should be improved before when. This company responded to this notice and therefore further action was not required. In general, companies are not of the opinion that inspectors immediately impose sanctions whenever they notice an infringement.

5.4.4 Relationship between inspectors and companies²⁷

The inspectors who participated in the northern region project considered their relationship with the companies to be good. They were of the impression that the inspections were based on co-operation and slightly more than half of the inspectors felt that the inspections took place in a rather formal atmosphere. Companies agree with the inspectors on this aspect; they also consider their relationship with inspectors to be good, based on co-operation and formal. Generally, inspectors feel that it is important to have such a good relationship in order to receive all information necessary for good enforcement. During the project discussions and the giving of advice were considered to be very important. The whole idea of the project was to stimulate and inform companies on the topic of safety data sheets.

Table 5.12: Relationship between inspectors and companies in Great Britain (answers in percentages; number of respondents in brackets)

	Inspectors-project		Companies	
Relationship in general				
• The relationship is good.	86	(7)	100	(8)
• The inspections are based on co-operation.	100	(7)	75	(8)
• There is a formal atmosphere.	62	(7)	75	(8)
Room for discussion / advice				
• Discussion is important.	100	(7)	88	(8)
• There often is discussion on the content of legislation.	86	(7)	58	(7)
• Inspectors often give advice.	100	(7)	72	(7)
Dependency inspectors on companies				
• A good relationship with companies is necessary for good enforcement.	71	(7)		
• I am dependent on companies for obtaining information.	86	(7)		

5.5 Spain²⁸

5.5.1 Introduction

As is the case with all legislation, the Autonomous Communities are responsible for the enforcement of the safety data sheets directive. The 'regional health ministries' in the Autonomous Communities, especially the departments on environmental health, usually enforce the topic of safety data sheets. During the interviews with representatives of the regional ministries in the three Autonomous Communities it appeared that it was important to select a fourth Community as well: Andalusia. This Community has a special programme focused on SDS that made it interesting to study Andalusia as well.

Each Autonomous Community can independently decide how to enforce the safety data sheets directive. In order to make sure that there is some sort of uniform enforcement approach throughout Spain, there is a health committee on national level: the 'National Committee for Public Health' ('Comision Nacional de Salud Publica'). The chairman is the national minister of health and the regional ministries of health and environment of the Autonomous Communities are represented as well. This committee is rather politically oriented and there are various subcommittees discussing more specific topics on technical level.

In the subcommittee on dangerous products, the 'Committee for Environmental Health' ('Ponencia de Sanidad Ambiental'), technical aspects such as the labelling and classification of dangerous substances and preparations are discussed. This subcommittee is also responsible for the subject of safety data sheets. However, according to some members of this committee, the topic of safety data sheets is not often discussed. The national health ministry has no idea how many Spanish inspectors there are in total who check the topic of safety data sheets. There also is no clear idea about how the Autonomous Communities execute the SDS enforcement. Nor did the national health ministry set up a national instrument for inspectors to use during the inspections. Autonomous Communities are completely autonomous in enforcing legislation.

In Catalonia the responsible actor is the regional 'Ministry of Health and Social Security' ('Departament de Sanitat i Seguretat Social'), especially its 'Department of Environmental Health'. The Catalan health ministry has its own inspectors: there are approximately 280 inspectors working in this ministry. These inspectors do not have a full-time job as an inspector; they work on 'call up' basis. The 280 inspectors are divided over the four Catalan provinces, however, most of them are located in Barcelona. Of these 280 inspectors there are about four who know in detail about the safety data sheets legislation. In practice, there hardly is a difference in the amount of time these four specialised inspectors and the other inspectors spend on safety data sheets. The respondent in Catalonia was not able to estimate an average amount of time, but guessed this not to exceed the 5%.

In Valencia the 'Ministry of Health' ('Conselleria de Sanitat') is responsible for safety data sheets. Especially the 'Directorate General of Public Health' is concerned with enforcing of this topic. There are 20 to 25 environmental health inspectors who can enforce safety data sheets. A respondent from Valencia estimates that these inspectors in general do not spend more than five percent of their time on the enforcement of safety data sheets.

In Madrid, the regional ministry responsible for the enforcement of safety data sheets is the 'Ministry of Health' ('Consejería de Sanidad'), in specific its 'Directorate General of Public Health' and its 'Service of Environmental Health'. Madrid is divided into 11 health areas and in each area two inspectors are responsible for all environmental health legislation. The estimated time these inspectors spend on safety data sheets is between five and ten percent.

The regional ministry responsible for safety data sheets in Andalucia is the 'Ministry of Health' ('Consejería de Salud'). Especially the 'Directorate General of Public Health and Participation' and its subdepartment on environmental health are involved in this topic. In Andalucia there are about 300 environmental health inspectors who spend between five and ten percent of their time on the enforcement of the safety data sheets directive.

Representatives in all four Autonomous Communities indicate that there is quite some contact between the various regional health ministries; they meet every month in the national Committee. Safety data sheets is not a topic that is discussed regularly, but the representatives indicate that it is important that they know each other and that they can easily contact other Communities in case there are problems or questions.

Table 5.13: General organisation in Spain

	CAT	VAL	MAD	AND
Number of inspectors.	280	20-25	22	300
Inspectors work part-time or full-time on SDS.	< 5%	< 5%	5-10%	5-10%
Actual contact between inspectors of different agencies.	sometimes			
Are the enforcement agencies expected to co-operate during the inspection?	no			

5.5.2 Inspections

a) Catalonia

In Catalonia there is no clear system of enforcing the safety data sheets directive. There are no special projects to check the sheets. Whenever they are checked, this will be done during regular health inspections. When the sheets are a topic of attention, it is mainly checked whether they are used to describe the right product. For example, inspectors check whether a sheet on chlorine is actually attached to the product chlorine as well. Besides, there is a focus on the use of the Spanish language. Most companies import products from foreign countries. Therefore, many sheets are found in another language and they are not useful in this way since not many employers and employees speak other languages. The sheets are not checked for their content. The focus is more on products than it is on sheets or labels. There certainly are no full-time SDS inspectors. Inspectors are educated to do very broad types of health inspections. Within their own geographical region, the inspectors are responsible for all health legislation. Inspectors have discretion what to inspect. In general, safety data sheets is not an often checked topic. Catalonia did not establish special instruments to help inspectors to check safety data sheets.

b) Valencia

In Valencia there is no specific programme to enforce the topic of safety data sheets. Nor is there a special instrument or guideline that inspectors can use to enforce this topic. The inspectors responsible for safety data sheets in Valencia are environmental health inspectors. They can be chemists, biologists or public health experts. The 20 to 25 inspectors look at all sorts of environmental health legislation and do not pay very much attention to safety data sheets as such. They only check the sheets when they see a problem, not on a regular basis or during special projects. When visiting companies inspectors are free to check whatever they find necessary. There is no standard number of companies or a fixed standard of regulations inspectors have to check each year.

Valencia does participate in the national project 'chemical alert'. This project arranges that whenever deficiencies related to a product (either classification, label or safety data sheet) are found, inspectors in all Autonomous Communities try to find out where a product is coming from. This is a system that registers where products are coming from and where they are going. In case the safety data sheet or label is wrong, it is important to know where a product is coming from in order to located the correct information. Enforcement of the topic of safety data sheets in relation to this chemical alert programme only is reactive; inspectors will check the sheets whenever a deficiency is found. This does not happen often, however.

When inspectors do check the sheets they first of all start to check whether there are sheets for all dangerous products available. Then they look whether the sheets are in Spanish. Very often they are not available in Spanish; English versions are found regularly. After that they check the content of the sheets. Most attention is being paid to headings 1, 2, 3, 8 and 15. The health ministry in Valencia has regular contact with the health ministry in Andalucia. Andalucia has a special project on safety data sheets Valencia is interested in. In the future, Valencia might pay more attention to this subject and start a similar project as the one in Andalucia.

Catalonia nor Valencia actively enforce the topic of safety data sheets.

c) Madrid

Madrid does have a special system to enforce environmental health legislation. Since a couple of years, Madrid is establishing a mechanism to control the market of dangerous substances and preparations. There are many companies in Madrid that produce or trade dangerous substances or preparations. Madrid is trying to map these companies in a 'map of chemical risks' with the principle objective to set up a geographical information system that is capable of producing precise information on the location of the chemical industry. Madrid started this mapping with the category of companies that produce detergents, disinfective and cleaning aids in the food industry and those companies that produce materials that are in contact with food. In the summer of 2001 this database contained 1776 companies related to the above mentioned activities. All these companies are obliged to have safety data sheets as well.

By the end of 2001, the 22 environmental health inspectors inspected about 800 of the 1776 companies in the database. Before starting the inspections, these inspectors asked companies to send documentation related to their products. This documentation covered all types of health legislation, not just safety data sheets. The inspectors started to evaluate these documents at the office. They were able to use a special checklist for this activity. Of the five respondents, three actually used this checklist. This work at the office took a considerable amount of time, some respondents mention the average of two to three days per company. Since all documentation was already studied before, the actual inspections only took a few hours. Each inspector checked between 30 to 40 companies. For the future, these 22 inspectors will inspect the rest of the 1776 companies in the database as well. Furthermore, Madrid will try to extent the database with other types of chemical companies in order to complete this 'map of chemical risks'. These future 'members' of the database will be inspected as well for all their environmental health legislation and thus also for safety data sheets. Therefore, in the future all chemical companies in Madrid will be inspected for their safety data sheets.

d) Andalucia

Andalucia is divided into eight provinces and furthermore into districts that have respectively a 'health delegation' and a 'health co-ordinator'. The health co-ordinators of all districts are responsible for approximately eight to ten inspectors (300 in total). Andalucia also has a special programme to enforce the topic of dangerous substances and preparations, but this programme is different from the one in Madrid. In 1996, Spain joined the European project 'SENSE' on the notification of new substances.²⁹ The participation in this programme made the health ministry in Andalucia aware that they were not actually enforcing this type of legislation. Chemical products were not inspected up until then. Therefore, one policy-maker at this ministry was made responsible for setting up a special enforcement project in this area.

Table 5.14: Inspections in Spain (answers in percentages; number of respondents in brackets)

	CAT	VAL	MAD	AND
Active enforcement.	no	no	yes	yes
Inspections are outsourced.	no	no	no	no
Number of inspectors per inspection.	1	1	1	1
Number of companies inspected per year for SDS:	not known	(2)	each inspector checked 30-40 companies over a couple of years	(4)
• 1-5		100		75
• 5-10		0		25
• 10-15		0		0
Number of sheets that are checked per visit:	not known	(2)	not known	(4)
• 0		0		0
• 1-5		50		0
• 5-10		50		50
• > 10		0		50
Focus of the inspections?		(2)	(5)	(4)
• only on SDS	0	0	0	0
• also on other legislation	100	100	100	100
Inspectors use an inspection-plan:		(2)	not known	(4)
• yes, followed strictly	0	0		0
• yes, possible to deviate	0	0		100
• no	100	100		0
Inspectors are free to decide what to inspect:		(2)	not known	(4)
• strict format	0	0		0
• loose format	0	100		75
• free to decide	100	0		25
Inspectors use inspection tools.	no tool	no tool	60	(5) 100 (4)
The average length of a company-visit is:	not known	(2)	(5)	(4)
• < 1 day		50	100	25
• 1 day		50	0	25
• > 1 day		0	0	50
Total number of man-days per inspection.	not known	0,5-1	0,5	0,5-1,5
Total workload inspectors per company (in man-days).	not known	1-3	2-3	2-4
How often can a company expect to be visited for SDS:	not known	(1)	not known	(4)
• annually		0		25
• once every 2-5 years		100		50
• less than once every 5 years		0		25

This policy-maker started in 1998 to try to set up a programme to integrate this topic in the ordinary environmental health inspections.

This policy-maker wrote a programme on chemical products and set up a special manual for all inspectors. This manual contains a checklist with all items inspectors have to check. It contains a complete protocol for inspectors to use during the inspections: it is a form the inspectors can complete when they are at a site. It starts with general questions on the presence of the sheets, the use of the Spanish language, the presence of the 16 headings and the distribution system. Because the project is still in a beginners-phase the check of the content of the 16 headings is not yet very thorough. It is expected that more attention will be paid to this in the future when inspectors are more experienced. After the inspection, both the company and the inspector sign the protocol. This tool is mainly set up to help the inexperienced inspectors (at least in this policy area of dangerous chemicals) with what to check and it assures uniformity of the inspections for the companies. The four questionnaire respondents all claim to use this instrument during inspections.

The idea of the project is that in the future the topic of dangerous products will be integrated into the regular environmental health inspections. The regional health ministry wants to achieve that inspectors learn that chemical products are related to the rest of the legislation and that it is not a separate topic.

As the above descriptions of the SDS enforcement practices in Spain show, there is not 'one Spanish enforcement practice'. Instead, there are as many enforcement practices as there are Autonomous Communities. Each Community enforces the safety data sheets directive autonomously and differently. In Catalonia and Valencia there are no special programmes or projects focused on safety data sheets. Valencia is thinking about setting up a project in the future, but for the time being there is no active SDS enforcement. In these two Autonomous Communities, the existence of enforcement depends on individual inspectors and their personal interests. In Madrid and Andalucia there are special projects in which the topic of safety data sheets is integrated. Madrid is establishing a database that maps the market of dangerous substances and preparations. In the future, all companies in Madrid that house dangerous substances will be visited at least once for their SDS compliance. Andalucia is also establishing a system to integrate the topic of dangerous chemicals into their regular inspections. In both Autonomous Communities the attempts to enforce this topic are rather new. The future will tell to what extent companies will be visited regularly for their SDS compliance.

In Spain there are as many safety data sheets enforcement practices as there are Autonomous Communities. Only in Madrid and Andalucia there are active enforcement projects.

5.5.3 *Sanctioning practice*

The Spanish sanctioning possibilities are nationally organised and do not differ between the Autonomous Communities. Possibilities for sanctioning companies that do not comply with industrial legislation, under which Spain places the SDS directive, are based on the national 'Law of Industry' (21/1992). Title V 'Infractions and Sanctions' of this law prescribes different forms of sanctions that can be used whenever an infringement is detected. These forms are dependent on the situation and the seriousness of the infringement. The inspectors can use the following options:

- Oral or written advice;
- Fine;

- Prosecution;
- Close down a company.

Table 5.15: Sanctioning practice in Spain (answers in percentages; number of respondents in brackets)

	CAT	VAL	MAD	AND	
Frequency of sanctioning:		not known	(5)		(4)
• never	100		0	0	
• 0-25%	0		100	50	
• 25-50%	0		0	0	
• 50-75%	0		0	50	
• 75-100%	0		0	0	
Frequency of warning before imposing a sanction:		(2)	(5)		(4)
• never	0	0	0	0	
• 0-25%	0	50	0	0	
• 25-50%	0	0	0	25	
• 50-75%	0	50	0	0	
• 75-100%	100	0	100	75	
Types of instruments used most often.	advice	advice	advice	advice	
Percentage of inspectors who consider the following circumstances:	not known		not known		
• company size		0 (2)		50 (4)	
• severity infringement		100 (2)		100 (4)	
• costs to undo infringement		50 (2)		75 (4)	
• financial situation		50 (2)		25 (4)	
Inspectors consider...	not known		not known		
• company-specific circumstances		0 (2)		100 (4)	
• compliance costs		0 (2)		0 (4)	
The decision to impose sanctions is made by...	not known	(1)	not known		(4)
• me (inspector)		0		0	
• enforcement agency		0		0	
• jointly (inspector + agency)		100		75	
• manual		0		25	

In Catalonia and Valencia, inspectors do not spend much time on inspecting safety data sheets. If during inspections it seems that companies do not comply with the legislation, inspectors will usually warn companies first before imposing an official sanction. Companies normally respond to this and undo the infringement. Since this topic is hardly enforced there are no examples of SDS-related sanctions in these two Autonomous Communities.

In Madrid, during the inspection of the companies in the chemical database, some infringements were found. In most cases the infringements were related to labels and not so

much to safety data sheets. In these cases sanctions were used in an informative and educational way. Therefore, inspectors generally warned companies first. Inspectors in Madrid work according to the point of view that the best way to obtain good results from companies is to consult and inform them instead of punishing them. There were no specific examples of SDS-related sanctions.

Sanctions for SDS-related infringements are rare in Spain. Inspectors often warn and advice companies first before imposing formal sanctions.

In Andalucia the same story can be told. Here, the first inspections on the topic of dangerous products were merely meant to check the inspection method and to inform companies. Therefore, there are no examples of formal sanctions. The infringements that were found were corrected by use of advice. For the future a respondent from Andalucia does not expect many sanctions for safety data sheets as such. It remains a difficult aspect to check thoroughly, especially since the inspectors are no experts.

5.5.4 Relationship between inspectors and companies³⁰

All respondents from Valencia and Andalucia agree that the relationship with companies in general is good. The inspectors are of the impression that the inspections are based on co-operation and that they take place in a formal atmosphere. They also all agree that it is important to have a good relationship with the companies, especially since they feel they are dependent on companies to receive all information necessary for good enforcement.

Inspectors tend to give advice to companies and discussions are very important during the inspection. Sometimes companies send their drafts of the sheets to the inspectors and ask them for advice, which they then give. There is quite some discussion on the content of the SDS legislation between inspectors and companies.

Table 5.16: Relationship between inspectors and companies in Spain (answers in percentages; number of respondents in brackets)

	Inspectors	
Relationship in general		
• The relationship is good.	100	(6)
• The inspections are based on co-operation.	100	(6)
• There is a formal atmosphere.	100	(6)
Room for discussion / advice		
• Discussion is important.	100	(6)
• There often is discussion on the content of legislation.	83	(6)
• Inspectors often give advice.	100	(6)
Dependency inspectors on companies		
• A good relationship with companies is necessary for good enforcement.	100	(6)
• I am dependent on companies for obtaining information.	83	(6)

5.6 Comparison of the safety data sheets enforcement practices

5.6.1 Introduction

As the above descriptions show, there are quite some similarities and differences between the four Member States in how they enforce the safety data sheets directive. When considering the German Länder and Spanish Autonomous Communities as entities in their own right, Spain is the only country where there is officially only one enforcement agency for safety data sheets per region. In Germany there is one agency per Land plus one national agency, Great Britain also uses two agencies and in the Netherlands even three agencies have the responsibility to enforce the safety data sheets directive. The actual enforcement practices in these three countries show, however, that in all cases only one enforcement agency is involved. In Germany the national ‘BG Chemicals’ does not really enforce the topic of safety data sheets. The same can be said for the British ‘Trading Standards Institute’. In the Netherlands, since 1997, there in practice also is only one agency, the environmental inspectorate, that actively enforces the SDS directive. When not considering the 16 Länder and 17 Autonomous Communities as separates entities, Germany and Spain both have 17 enforcement agencies in total.

In all cases only one enforcement agency is responsible for the enforcement of the safety data sheets directive.

In three of the four Member States, agencies with the topic ‘health’ in their portfolio are responsible for the SDS enforcement. The sort of ‘health’ perspective differs slightly between the countries. Whereas Spain especially uses agencies that focus on public and environmental health, Germany and Great Britain use agencies with a focus on occupational health. The Netherlands (since 1997) mainly uses its environmental agency for the SDS enforcement.

Germany, Great Britain and Spain use their ‘health agencies’, whereas in the Netherlands the ‘environment agency’ enforces the SDS directive.

Table 5.17: Comparison of the general organisation

	NL	D	GB	E
Number of inspectors.	20-22	BG: 100 Länder: ± 500	TSI: 3.000 HSE: 720 project: 20	VAL, MAD: ± 20 CAT, AND: ± 300
Part-time ↔ full-time.	<25%	<5%	TSI: <1% HSE: <5% project: <25%	<5%
Contact between agencies.	hardly / no	no	no	sometimes
Co-operation between agencies.	no	no	no	no

Since, generally speaking, there is only one agency responsible for the safety data sheets enforcement, it is logical that in none of the four Member States the enforcement agencies are expected to co-operate or to execute the inspections together. In none of the countries

there are special teams for the SDS inspections. Individual inspectors enforce this topic alone. Contact between inspectors of different enforcement agencies on the topic of safety data sheets is rare.

The total number of inspectors with safety data sheets responsibilities differs between the countries. In Great Britain, Germany (per Land) and Catalonia and Andalucia in Spain there are large numbers of inspectors – varying from 300 to 700 – who in theory can check the compliance with the safety data sheets directive. In the Netherlands and Valencia and Madrid in Spain the numbers are much lower.

Inspectors spend little time on the enforcement of safety data sheets. Only in the Netherlands there are 20 inspectors who spend more than 5% of their time on this topic.

In these cases only about 20 inspectors are appointed with SDS responsibilities. In general it can be said that in all four Member States these inspectors hardly pay attention to the topic of safety data sheets. Only in the Netherlands, some inspectors spend more than five percent of their time to enforcing this directive.

5.6.2 *Inspections*

When comparing the SDS enforcement practices in these four Member States the general conclusion can be drawn that the enforcement of safety data sheets is not high on everyone's agenda. In none of the countries special 'SDS-inspectors' exist who pay full-time attention to this topic. In all cases – when inspectors do pay attention to safety data sheets – it is only a small amount of their time. Attention for safety data sheets depends on the person of the inspector. If an individual inspector is interested in this topic, he or she might enforce it. Only special projects guarantee attention for this directive. In all countries the enforcement that does take place is directed via special projects on hazardous substances in general. Since most of these projects show rather bad compliance rates, it is surprising that there is no more attention for the enforcement of this topic.

Since SDS projects often show bad compliance results, it is surprising that there is so little attention for this topic during inspections.

Most attention to SDS enforcement is paid in the Netherlands. Here, the environmental inspectorate organised annual projects since 1997 and it is likely that they continue doing so in the nearby future. Also Madrid and Andalucia pay regular attention to safety data sheets since a couple of years. Projects in other countries were once only and further enforcement is dependent on individual actions of inspectors. Of all projects that have been organised, the ones in the Netherlands show the most thorough check of the content of the sheets. Whereas inspectors in other countries usually only focus on the presence of the sheets, the use of the national language and the presence of 16 headings, Dutch environmental inspectors thoroughly check the content of these 16 headings as well.

Of the four Member States, the Netherlands pays the most attention to the enforcement of the SDS directive; there are annual projects that focus on the content of the sheets.

Even though companies only have a very small chance of being inspected for their SDS compliance in all four Member States, the chances of SDS inspections are slightly higher in the Netherlands, Madrid and Andalucia than they are in the other countries or regions.

Table 5.18: Comparison of the inspections (answers in percentages; number of respondents in brackets)³¹

	NL	D	GB	E
Active enforcement.	yes (environment agency)	only during special projects (1 project per Land)	only during 1 special project	differs per Community; active in MAD and AND
Inspections are outsourced.	0	0	0	0
Number of inspectors per inspection.	1	1	1	1
Number of companies inspected per year for SDS:	(8)	only during projects; otherwise depends on interest inspector	only during projects; otherwise depends on interest inspector	(6)
• 1-5	37			0
• 5-10	25			83
• 10-15	37			17
Number of sheets checked per visit:	(8)	not known	during project	(6)
• 0	12		1-5 sheets;	0
• 1-5	38		otherwise	17
• 5-10	50		unknown	50
• > 10	0			33
Percentage of entire SDS inspections.	9 (19)	12 (8)	0 (86% during project)	0 (11)
Inspectors who use an inspection-plan.	63 (8)	0 (estimate)	0 (7)	only in AND
Inspectors free to decide what to inspect.	12 (8)	100 (estimate)	100 (7)	differs per Community
Usage of inspection tools.	88 (8)	small checklist during projects	86 (7)	only in MAD and AND
The average length of a company-visit is ...	(18)	(8)	(12)	(11)
• < 1 day	93	88	90	64
• 1 day	7	12	10	18
• > 1 day	0	0	0	18
Man-days per inspection.	0,5	0,5	0,5	0,5-1,5
Total workload inspectors per company (in man-days).	0,5 to 4	1 to 2	0,5 to 2	1 to 4
How often can a company expect to be visited for SDS:	(7)	depends on interest inspector	depends on interest inspector	(5)
• annually	0			20
• once every 2-5 years	43			60
• less than once every 5 years	57			20
Percentage of company respondents that were inspected for SDS?	55 (20)	42 (19)	35 (17)	
Differences between the enforcement agencies.	0	0	0	0

5.6.3 *Sanctioning practice*Table 5.19: Comparison of the sanctioning practice (answers in percentages; number of respondents in brackets)³²

	NL	D	GB	E
Frequency of sanctioning?	(8)	sometimes in	normally never;	no examples of
• never	12	BAV, never in	during special	sanctioning
• 0-25%	38	NRW and BW	project 86% of	available
• 25-50%	12		the inspectors	
• 50-75%	38		sanctioned	
• 75-100%	0		companies	
Warning first?	(8)	normally	(7)	normally
• never	12	inspectors	0	inspectors
• 0-25%	50	will warn first	29	will warn first
• 25-50%	0		14	
• 50-75%	12		43	
• 75-100%	25		14	
Types of instruments used most often?	warrant & penalty	BAV: revision	improvement	advice
		letter/oral advice	notice	
Inspectors consider...		not known		
• company size	0 (8)		43 (7)	33 (6)
• severity infringement	100 (8)		100 (7)	100 (6)
• costs to undo infringement	0 (8)		43 (7)	67 (6)
• financial situation	0 (8)		86 (7)	33 (6)
Inspectors consider...				
• company-specific circumstances	38 (18)	70 (10)	88 (15)	0-100 ³³ (6)
• compliance costs	15 (18)	30 (10)	33 (15)	0 (6)
Decision to impose sanctions is made by...	(8)	not known	(7)	(5)
• me (inspector)	0		43	0
• enforcement agency	37		0	0
• jointly	0		14	80
• manual	63		43	20
Percentage of respondents where a violation was found.	15 (20)	16 (19)	6 (17)	
Percentage of detected respondents that received a warning first.	66 (3)	66 (3)	0 (1)	
Percentage of all respondents that received a sanction.	10	11	6	

In general, the SDS sanctioning practice is to a large extent related to the fact whether there is a special enforcement project or not. In those countries or agencies where there are no special projects, there are no examples of sanctioning. This can, for example, be seen in the labour inspectorate in the Netherlands or in Catalonia and Valencia in Spain. When there are special projects – especially in the environmental inspectorate in the Netherlands and the northern region project in Great Britain – examples of sanctioning are available.

The strictest sanctioning approach can be seen in the environmental inspectorate in the Netherlands, Bavaria and the special project of the HSE in Great Britain. In these three cases, the inspectors imposed formal sanctions and in the Netherlands (450 & 2.300 euro) and Bavaria (150 & 1.025 euro) these even let to fines.

Sanctions related to SDS infringements only occur during special projects.

Companies generally respond to sanctions such as warrants, revision letters and improvement notices; they undo the infringement before they actually have to pay a fine. The Spanish Autonomous Communities and North-Rhine Westphalia and Baden-Württemberg in Germany are rather lenient when it comes to imposing sanctions. Especially Spanish inspectors rather advice and warn companies.

5.6.4 Relationship between inspectors and companies

In all four Member States, inspectors and companies consider their relationship with each other to be good. In three of the four countries, respondents claim that their relationship is based on co-operation. Only in the Netherlands especially companies are less positive about the importance of co-operation in their relationship. In Germany and Spain the inspections take place in a formal atmosphere. Especially Spanish inspectors are of the impression that they are dependent on companies to receive all information necessary for good enforcement and they therefore see a good relationship with companies as a necessity. Dutch inspectors do not worry about this aspect. Even without a good relationship, the topic of safety data sheets is enforceable according to most Dutch respondents.

In all countries, the least in the Netherlands, discussions play an important role in the relationship between inspectors and companies. Dutch inspectors are the least likely to advice companies on their compliance with the SDS directive. Especially in Germany and Spain the giving of advice plays a major role in the relationship between inspectors and companies.

Table 5.20: Comparison of the relationship between inspectors and companies (answers in percentages; number of respondents in brackets)

	NL	D	GB	E
Inspectors and companies combined: relationship in general				
• Relationship is good.	95 (18)	100 (10)	93 (15)	100 (6)
• Co-operation.	57 (18)	100 (10)	88 (15)	100 (6)
• Formal atmosphere.	73 (18)	90 (10)	69 (15)	100 (6)
Inspectors and companies combined: room for discussion / advice				
• Discussion is important.	72 (18)	100 (10)	94 (15)	100 (6)
• Discussion on the content.	40 (18)	40 (10)	72 (14)	83 (6)
• Inspectors advice often.	47 (17)	100 (10)	86 (14)	100 (6)
Opinion inspectors on companies: dependency inspectors on companies				
• A good relationship is necessary.	25 (8)		71 (7)	100 (6)
• I am dependent on companies.	63 (8)		86 (7)	83 (6)

Dutch companies heavily criticised the formal and strict approach of the inspectorate for the environment during its SDS enforcement projects. Overall, it can be said that the relationship between inspectors and companies is the most problematic in the Netherlands.

In general, the relationship between inspectors and companies is good, although slightly less good in the Netherlands. Dutch companies are rather negative about the enforcement practice and level of competence of inspectors.

Notes

- 1 The information on the SDS enforcement practice according to inspectors in the Netherlands is based on eight interviews, eight normal questionnaires and five adjusted questionnaires. The information on the enforcement practice according to companies is based on eight interviews and twenty questionnaires. For more information on the interviewees and questionnaire respondents, see Annex I.
- 2 The two enforcement actors that are not involved in the SDS enforcement are the 'Corps Controllers Dangerous Substances' and the 'civil servants responsible for import duties'. The main reason why these two actors are not involved in the enforcement is that they do not come across suppliers of safety data sheets.
- 3 In the health inspectorate, the inspectors are called controllers.
- 4 'Het veiligheidsinformatiebladenbesluit WMS', Labour Inspectorate, 1995.
- 5 There is, however, the exception of the one environmental inspector who was involved in the first project of the labour inspectorate.
- 6 'Handhavingsuitvoeringsmethode. Wet milieugevaarlijke stoffen Integratie Project (WIP).' Inspectorate for the Environment, December 1999. This tool focuses on more topics than safety data sheets alone. It, amongst others, also focuses on import and export of hazardous substances and on the notification of these substances.
- 7 'Leidraad controle VIB's.' Haskoning, June 1999.
- 8 The results are presented in 'Stoffige Zaken. Eindrapportage van het Wms Integratie Project gedurende de jaren 1997-1998.' Inspectorate for the Environment, September 1999.
- 9 The results are presented in 'Material Safety Data Sheets Quality Survey', Inspectorate for the Environment, December 1999.
- 10 The results are presented in 'Trademarks'. Inspectorate for the Environment, May 2000.
- 11 The results are presented in 'Stof tot nadenken.' Inspectorate for the Environment, April 2000.
- 12 The health inspectorate is not included in this table since this agency does not actively enforce the SDS directive.
- 13 This fine is new in the respect that inspectors can impose these themselves without interference of a judge. Before the introduction of this fine inspectors could only use warrants for which they had to contact the public prosecutor. Now the public prosecutor only has to be consulted in case of criminal offences. Administrative fines can be as high as 45.000 euro for a company and 225 euro for individual employees.
- 14 In this case, first an intention to impose a penalty is given. A company then still has a few weeks, normally four to six weeks, to undo the infringement. When the infringement is not ceased, the company will get a final term of approximately four to six

- weeks. When nothing is solved after this period, the company has to start paying with-
out further notice. For every week the infringement continues the company has to pay a
fine. This can lead to an amount of 2.300 to 4.500 euro per week.
- 15 A warrant is part of criminal law and therefore has to be carried over to the public
prosecutor. This public prosecutor can decide to come to an arrangement with the com-
pany, in which case the company will have to pay a sum of money, or can decide to put
the case before court. Normally the prosecutor will decide for the arrangement; the
sum a company has to pay can vary from 2.300 euro to even 136.000 euro. A case will
only be brought before court if it concerns a company that receives many warrants or if
it concerns a severe infringement. Normally a company will accept the arrangement and
pay the money, but a company does have the opportunity to refuse and let the case
come before court. This will not happen often because of the negative publicity; a com-
pany has to think about its reputation.
 - 16 During the time of the interviews on safety data sheets in the Netherlands, the proced-
ures against these companies were still running (warrant-procedures take quite some
time) and therefore nothing could yet be said about the height of the sum of money
that the companies have to pay.
 - 17 The answers of the labour and environmental inspectors are combined.
 - 18 Since health controllers do not actually enforce this topic, the information in this sec-
tion is only based on labour and environmental inspectors.
 - 19 The description of the SDS enforcement practice in Germany according to inspectors is
based on seven interviews. The distribution of the questionnaire among inspectors was
problematic in Germany because of the absence of full-time SDS inspectors. The
enforcement agencies did not want to disturb their inspectors with a questionnaire on
one specific topic they are not specialised in. The information on the enforcement prac-
tice according to companies is based on four interviews and 19 questionnaires. The 19
questionnaires were equally drawn from North-Rhine Westphalia (36%), Baden-
Württemberg (32%) and Bavaria (32%). For more information on the interviewees and
questionnaire respondents, see Annex I.
 - 20 However, when talking about this topic, the respondent from North-Rhine Westphalia
mentioned that it might be time to do another project on safety data sheets.
 - 21 ‘Technische Regeln für Gefahrstoffe (TRGS 220) – Sicherheitsdatenblatt für gefährliche
Stoffe und Zubereitungen’.
 - 22 Since there are no questionnaires completed by inspectors, the percentages in this table
are estimates. The BG is left out of this table since it does not actively enforce the SDS
directive.
 - 23 The information on the SDS enforcement practice according to inspectors in Great
Britain is based on six interviews and seven questionnaires. The seven questionnaire
respondents are HSE inspectors who participated in the northern region project. The
information on the British enforcement practice according to companies is based on
four interviews and seventeen questionnaires. For more information on interviewees
and questionnaire respondents, see Annex I.
 - 24 The TSI is not included in this table since this agency does not actively enforce the SDS
directive.
 - 25 The project leader checked 50 companies in total during the project.
 - 26 The project leader sanctioned approximately 20 companies for non-compliance with
the SDS directive.
 - 27 Since the Trading Standards Officers and the HSE inspectors in general do not actually

- enforce this topic, the information on inspectors in this section is only based on the HSE inspectors who participated in the special project.
- 28 The description of the enforcement practice according to inspectors in Spain is based on six interviews, six normal questionnaires and five short questionnaires. The six questionnaire respondents come from Andalusia (four) and Valencia (two). Five inspectors from Madrid completed a shorter version. The information on companies is derived from two interviews. It was not possible to distribute the company-questionnaire in Spain. For more information on the interviewees and questionnaire respondents, see Annex I.
 - 29 From September 1996 to November 1997 all Member States (except Luxembourg) participated in a project to enforce the then latest amendment of the substances directive (92/32/EEC). The project was called 'SENSE' ('Solid Enforcement of Substances in Europe') and it focused on checking the compliance of chemical companies with their obligations to notify new substances, classify and label chemical substances and produce safety data sheets.
 - 30 Since only inspectors from Valencia and Andalusia completed the extended version of the questionnaire, the information in this section is only based on these two Autonomous Communities. No company results are available.
 - 31 The answers in this table, as far as possible, represent averages within countries. Where possible, answers of inspectors and companies are combined. The Dutch answers are a combination of the answers of the labour and environmental inspectorates. The German answers are only based on the Länder agencies since the BG does not actually enforce this subject. The percentages in Spain represent Valencia and Andalusia only.
 - 32 Where possible – in case both inspectors and companies answered the same question – this table represents averages within the four countries; the answers of inspectors and companies are combined.
 - 33 The answers differ from 0% in Valencia to 100% in Andalusia.

Chapter 6

The safety data sheets compliance practice

6.1 Introduction

6.1.1 *The safety data sheets directive*

In order to comply correctly with the safety data sheets directive, all companies that place dangerous substances or preparations on the market – whether they are a manufacturer, importer or distributor – must supply the recipients of these dangerous products with a safety data sheet. The SDS requirements are rather easy to understand. For each dangerous substance or preparation, an operator needs to make a safety data sheet in the national language, containing 16 prescribed headings that must be set up according to the Annex of the directive.¹ The sheet must be updated if necessary and it must be sent free of charge with every first supply and within a year after each revision.

Example of a safety data sheet for 'chlorine dioxide'.

Heading 3. Hazards identification.

Human health effects: Harmful if swallowed. Chlorine dioxide gas is highly toxic.

Environmental hazards: Harmful to plants and animals, with aquatic organisms being particularly sensitive. At concentrations of more than 3%, the solution is highly toxic to aquatic organisms.

Other hazards: Chlorine dioxide gas is toxic and explosive at concentrations of more than 12% in air.

The main question this chapter focuses on is how companies that supply dangerous products comply with their obligation to deliver safety data sheets. Do companies in different countries have a similar or deviating compliance practice? The compliance practices in the four Member States are described in three categories: (1) general organisation, (2) workload and (3) level of compliance.² This chapter concludes with a comparison of the compliance practices.

6.1.2 *Short overview of the SDS obligations*

In general, there are no differences in the SDS obligations for companies located in different Member States. The only aspect that might differ is the 'Occupational Exposure Level-value'.³ There is no European regulation for this and these values might differ per country. Thus there might be differences between countries in what they indicate as dangerous. Whereas the 'Occupational Exposure Level-value' in one country can lead to the interpretation that a product is dangerous to the skin, this value in another country can lead to the interpretation that it is not. As this chapter will show, some companies produce different sheets for clients in different countries making allowance for these varying occupational exposure level values. Not all companies do so, however.

The way in which the regulated generally speaking comply with the safety data sheets directive differs between companies. A difference can especially be noticed between companies with only a few dangerous products, and thus the obligation to produce only a few sheets,

and companies that supply many dangerous products. The numbers of sheets that have to be made by companies can vary from only one to several thousands. This difference in numbers of sheets usually coincides with the size of a company, but not necessarily. Normally, companies that have to supply many sheets compile these themselves, whereas companies that only have to produce a couple of sheets ask a consultant to do this for them.

Companies with a couple of hundred products, or sometimes even thousands, have their own system with which they make, revise and distribute the safety data sheets.⁴ These companies often already had some sort of system to make sheets before the existence of the European directive. There are examples of companies that already used the 'International Standardisation Organisation-standards' (ISO 11014-1), the 'Deutsches Institut für Normung-standards' or the requirements from the United States. These ISO and American standards required a sheet with nine specific headings. The companies that already made sheets before the existence of the

Example of a safety data sheet for 'chlorine dioxide'.

Heading 6. Accidental release measures.

Personal precautions: Gas mask, safety goggles and safety gloves are necessary when dealing with major spills. Possible sources of ignition must be removed.

Environmental precautions: Spills of chlorine dioxide solutions should be diluted to a low concentration using copious amounts of water.

Methods for cleaning up: Dilute with copious amounts of water. Contact assistance in the event of major releases. Inform the local emergency services.

Example of a safety data sheet for 'chlorine dioxide'.

Heading 11. Toxicological information.

Chlorine dioxide solution in concentrations of between 0.3 and 3% is classified as a substance hazardous to human health and irritating to the eyes. Chlorine dioxide is quickly broken down into other chlorine derivatives such as chlorate, chlorite and chloride. High concentrations of chlorine dioxide may occur in air during manufacture.

Acute toxicity: LD50 (orally, rat) = 39-113 mg/kg
Chlorine dioxide is a reacting and oxidising gas, which oxidises haemoglobin in the blood to methaemoglobin. This leads to a lack of oxygen in body tissue since methaemoglobin does not have the same ability to transport oxygen.

Symptoms (*chlorine dioxide gas*)

Initially, chlorine dioxide affects the eyes, skin and airways. Normal symptoms of over-exposure are coughing, pallid skin, headache, fatigue, nausea, breathing difficulties and irritation to the eyes, skin and mucous membranes. The first symptoms appear immediately. Acute over-exposure can cause bronchitis, pneumonia and pulmonary oedema.

Local effects: **Inhalation**
Inhalation causes irritation of the mucous membranes.

Skin and eyes

Chlorine dioxide aqueous solution is an eye and skin irritant.

Long term toxicity: Chronic exposure may lead to lung damage and damage to teeth.

EU directive therefore had to change their systems in order to be able to make the correct European sheet with its 16 headings. Quite some multinationals indicate that they have one location where the sheets are made for all other sites. AKZO-Nobel, for example, has locations in different EU Member States, but the sheets for all sites are made in the Netherlands.

For smaller companies with less expertise, or companies that only have to supply a couple of safety data sheets, it is not profitable to set up an entire system to make, revise and distribute the sheets. Therefore, these companies more often outsource some or all of the requirements. Different options are thinkable. Companies can buy a software system and compile the sheets themselves, companies can subscribe to a database with all relevant, and difficult to overtake, information on chemicals or companies can completely outsource all requirements and hire a consultant to do the work for them.

6.2 The Netherlands

6.2.1 General organisation

Dutch companies often outsource a part of the requirements when complying with the safety data sheets directive. Only a few companies completely outsource the SDS requirements or comply with them entirely on their own. Most companies only outsource the making of the software system; they buy the computer programme and use this to make the sheets themselves. A few respondents also outsource the information gathering since they have a subscription to a database.

It is common for Dutch companies, especially the larger ones, to have appointed a special department to be responsible for making, updating and distributing the sheets and to train the personnel that is involved. The names of these departments differ, e.g. 'regulatory affairs', 'health, safety and environment', 'product management'. The background of the personnel working for these departments usually is chemical or toxicological.

The Dutch government undertook some initiatives to inform companies about the safety data sheets legislation. Both the labour inspectorate (1994) and the environmental inspectorate (2000) organised workshops on this topic. The social affairs ministry distributed a brochure on this topic in October 1994 to explain the basic requirements: 'Who supplies, supplies a safety data sheet!'.⁵ In 2000 the labour inspectorate published a guideline for industry focused on safety data sheets and labels: 'AI-blad 26'.⁶ This guideline explains in twelve pages what a sheet should look like. It, for

Dutch AI-blad 26, page 28.

Heading 5 on fire-fighting measures should mention at least:

- usable extinguishing media
- non-usable extinguishing media
- specific hazards
- protective outfit for fire-fighters

each of the 16 headings, mentions what companies should describe and gives an example of what each heading could look like in practice. This guideline only has an instructive character and is not obligatory. Only a small percentage of the questionnaire respondents actually use it. Companies more often use the EU directive or the Dutch legislation that transposed the directive. Some companies complained that this guideline came too late to actually be of use. In 2000 companies already had to make safety data sheets according to the EU legislation for six years and they therefore arranged information on the compilation of sheets themselves.

Table 6.1: General organisation in the Netherlands (answers in percentages; number of respondents in brackets)

How did companies learn about the concrete demands?		(19)
• inspectors	26	
• on my own	32	
• industry association	21	
• different	21	
Companies outsource SDS requirements:		(20)
• no	15	
• yes, partly	70	
• yes, completely	15	
Companies with a special department.	70	(20)
Companies that trained their personnel.	65	(20)
Companies with an automatic distribution of the sheets.	55	(20)
Companies that use compliance tools.	30	(20)
Companies have contacts with...		
• neighbouring establishments	25	(20)
• similar companies	45	(20)
• mother company	70	(20)
• industry association	75	(20)
• sister companies in other countries	40	(20)

6.2.2 *Workload*

The workload companies have when complying with the safety data sheets directive of course relates to the number of dangerous products available and thus to the number of sheets a company has to make. The Dutch questionnaire respondents vary heavily in the number of sheets they produce. The answers differed from one to 15.000 sheets. On average Dutch companies produce approximately 2.000 sheets; in percentages, however, most Dutch companies produce between 100 and 500 sheets.

The number of people in charge of making the sheets also varies. Most companies have three to five people who make all the sheets. One of the interviewees even mentioned to have ten employees in total to be responsible for safety data sheets. This concerns a multinational that makes sheets for sites all over the world. The total amount of time per company that is spent on making the sheets varies from four to 160 hours per week. The time spend per week depends on the number of sheets a company has to make. The four hours per week are spend in a company that has to produce 100 sheets and the 160 hours are spend in a company that is responsible for 15.000 sheets. Most companies spend less than ten hours or ten to fifty hours per week on making the sheets. Generally speaking, Dutch companies make one sheet in one to two hours. It is not common to regularly update the sheets; most companies update their sheets only once a year or even less. Slightly more than half of the respondents makes different sheets for clients in different countries. The aspect that companies change per country is the exposure control means that have to be mentioned in heading eight (see section 6.1.2 of this chapter).

Table 6.2: Workload in the Netherlands (answers in percentages; number of respondents in brackets)

Number of sheets a company produces.	Varying from 1 to 15.000; average 2.000.	
Number of sheets in categories:		(20)
• < 10	10	
• 10-100	5	
• 100-500	55	
• 500-1000	5	
• 1000-5000	15	
• > 5000	10	
Number of people making sheets:		(20)
• 0	0	
• 1	35	
• 2	25	
• 3-5	40	
• > 5	0	
Hours per week on making sheets:	Varying from 4 to 160; average 32 hours.	
Hours per week on making sheets in categories:		(19)
• < 10	42	
• 10-50	38	
• 50-100	15	
• > 100	5	
Time per sheet:		(17)
• < 1 hour	29	
• 1-2 hours	47	
• 4 hours	24	
• 1 day	0	
• > 1 day	0	
Frequency of updating sheets:		(18)
• every 3 months	6	
• every year	50	
• < every year	44	
Different sheets for different countries.	53	(19)

6.2.3 Level of compliance

Most Dutch respondents are positive about their own level of compliance with the safety data sheets directive. Only two companies are less positive. One of these two respondents mentioned that this is caused by the negative attitude of the company towards this piece of legislation. This person would like to devote more time to this topic but is not allowed to do so. Half of the companies have problems with the SDS compliance. It is problematic that they have to make different sheets for clients in different countries. Since the occupational expo-

sure levels (see section 6.1.2 of this chapter) vary between countries, companies have to adapt this level to the national requirements. Therefore, many of the respondents plead for European regulation in this area to harmonise the deviating national legislation. Another aspect that is mentioned often is that the sheets require detailed information in various areas of expertise and that some of this information is hard to overtake. A last problem mentioned by some respondents is that many of their own suppliers do not deliver correct sheets. This makes it extra complicated to make correct sheets for their own products since they also have to do the work of their suppliers in order to find out the correct information needed for an accurate safety data sheet. For example a company that uses a substance from a supplier that does not deliver an accurate sheet needs to find out in detail the characteristics of this substance in order to be able to provide a correct sheet for its own product.

Inspectors are not as optimistic as companies are about the level of compliance. Only half of the inspectors consider the companies to comply well with the safety data sheets legislation. The inspectors are of the impression that in general larger companies are better compliers than smaller companies and that producers of chemical products are better compliers than traders are. Larger companies show more willingness to comply with the legislation and have better systems to provide safety data sheets. They also have the expertise to make good sheets. Smaller companies often do not have such expertise available.

Table 6.3: Level of compliance in the Netherlands (answers in percentages; number of respondents in brackets)

	Companies		Inspectors	
We / companies comply well.	90	(20)	50	(8)
Larger companies comply better than smaller companies do.			87	(8)
Manufacturers comply better than traders do.			87	(8)
Problems with the compliance?	<ul style="list-style-type: none"> - harmonise occupational exposure levels - hard to get information - do not receive good sheets ourselves 			

6.3 Germany⁷

6.3.1 General organisation

The German chemical industry association is an important source of information for companies. Most of them learned about the SDS requirements via this association. As in the Netherlands, it is not common for companies in Germany to completely outsource the safety data sheets requirements or to comply with the SDS directive completely on their own. As Dutch companies, German companies generally outsource a part of the requirements. Most companies outsource the making of the software system or have a subscription to a database with relevant information.

German companies generally appointed a special department to be responsible for the SDS compliance. The names of these departments vary from 'product safety', to 'environment, health and safety' or 'regulatory affairs'. The personnel working for these departments

usually are trained to make the sheets and have a chemical or toxicological background. Most companies have a system to distribute the safety data sheets automatically.

Table 6.4: General organisation in Germany (answers in percentages; number of respondents in brackets)

How did companies learn about the concrete demands?		(19)
• inspectors	5	
• on my own	21	
• industry association	74	
• different	0	
Companies outsource SDS requirements:		(19)
• no	15	
• yes, partly	74	
• yes, completely	11	
Companies with a special department.	84	(19)
Companies that trained their personnel.	84	(19)
Companies with an automatic distribution of the sheets.	84	(19)
Companies that use compliance tools.	47	(19)
Companies have contacts with...		
• neighbouring establishments	37	(19)
• similar companies	58	(19)
• mother company	42	(19)
• industry association	16	(19)
• sister companies in other countries	27	(19)

The German federal government set up a specific guideline explaining the SDS requirements: ‘Technical Rules for Hazardous Substances 220 – Safety Data Sheet for Hazardous Substances and Preparations’.⁸ This guideline contains 30 pages and is meant to help companies with the compilation and inspectors with the checking of the compliance. Neither the different Länder nor ‘BG Chemicals’ set up any further guidance for companies to help them with the safety data sheets requirements.⁹ Only half of the questionnaire respondents actually use the governmental guideline to compile their safety data sheets. Most of the other respondents indicate to directly use the EU directive as guidance.

German guideline, page 15.

Necessary information to be included under heading 7.

Handling

- 1) Consider precautions for safe handling including advice on technical measures such as: local and general ventilation, measures to prevent aerosol and dust generation and fire, and any specific requirements or rules relating to the substance or preparation (e.g. procedures or equipment to be prohibited or recommended) and if possible give a brief description.
- 2) The information should be subdivided as follows;
 - information on safe handling
 - information on protection against fire and explosion

6.3.2 *Workload*Table 6.5: *Workload in Germany (answers in percentages; number of respondents in brackets)*

Number of sheets a company produces.	Varying from 2 to 50.000; average 4.800.	
Number of sheets in categories:		(17)
• < 10	6	
• 10-100	6	
• 100-500	12	
• 500-1000	29	
• 1000-5000	35	
• > 5000	12	
Number of people making sheets:		(19)
• 0	0	
• 1	37	
• 2	21	
• 3-5	37	
• > 5	5 (30 people)	
Hours per week on making sheets:	Varying from 2 to 800; average 90 hours.	
Hours per week on making sheets in categories:		(16)
• < 10	24	
• 10-50	45	
• 50-100	12	
• > 100	19	
Time per sheet:		(19)
• < 1 hour	16	
• 1-2 hours	53	
• 4 hours	21	
• 1 day	5	
• > 1 day	5	
Frequency of updating sheets:		(19)
• every 3 months	16	
• every year	68	
• < every year	16	
Different sheets for different countries.	50	(18)

The numbers of safety data sheets German companies have to make vary from only two to 50.000. On average the German respondents produce approximately 4.800 sheets. In percentages, most German companies produce between 1.000 and 5.000 sheets. Since the numbers of sheets companies have to produce vary widely, it is logical that the number of people compiling the sheets also varies widely between the companies. Some companies only have one employee who is responsible for safety data sheets, others have three to five people in

charge of this topic. One company even has 30 people working on the compilation, revision and distribution of the sheets. As could be expected, this last company is the one that produces 50.000 sheets. The time spent on making safety data sheets varies from two hours to 800 hours per week. Naturally, the company that makes 50.000 sheets with 30 people is the company that spends 800 hours per week on this activity. Most companies spend between ten and fifty hours per week on making the sheets, but three companies that spend many more hours per week on this topic (140, 160 and 800 hours) raise the average between all companies to about 90 hours per week.

Half of the companies spend one to two hours on making one safety data sheet and most companies update their sheets once a year. Half of the respondents claim to make different sheets for clients in different countries. As in the Netherlands, the aspect that German companies adjust to national circumstances is the occupational exposure level (see section 6.1.2).

6.3.3 *Level of compliance*¹⁰

All German companies are of the impression that they comply closely with the safety data sheets requirements. They all feel that their company is completely in line with the EU directive. Half of the respondents mentioned to have some problems with complying with the legislation, however. The problem mentioned most often is the difficulty companies have with obtaining some of the specific information that is required. Especially toxicological information sometimes is hard to find. Another problem mentioned is that companies have to make different sheets for clients in different countries. Companies do not like the variation in occupational exposure levels between the Member States. Also they would rather see that the European and American sheets are harmonised.

Table 6.6: *Level of compliance in Germany (answers in percentages; number of respondents in brackets)*

	Companies	
We / companies comply well.	100	(19)
Problems with the compliance?	- difficult to obtain information - harmonise different national legislation	

6.4 **Great Britain**

6.4.1 *General organisation*

As in the Netherlands and Germany, a large percentage of the British companies outsource a part of the safety data sheets requirements. However, more British companies, compared to the two other countries, comply with the SDS legislation completely by themselves. This coincides with the impression of a respondent from the British ‘Chemical Industry Association’ that only a small part of the, usually smaller, companies completely outsource this activity in the United Kingdom. The aspects that are outsourced are the making of the software system and the information gathering by subscribing to a database.

Only slightly more than half of the British companies have a special department to make the safety data sheets. When a special department is assigned, this usually is the ‘Safety, Health and Environment Department’. A small majority of the respondents organised training for its

employees on how to make the sheets. Often private consultants were asked to provide such training. Only half of the companies have a system that automatically distributes the sheets.

Table 6.7: General organisation in Great Britain (answers in percentages; number of respondents in brackets)

How did companies learn about the concrete demands?		(17)
• inspectors	18	
• on my own	41	
• industry association	18	
• different	23	
Companies outsource SDS requirements:		(17)
• no	30	
• yes, partly	58	
• yes, completely	12	
Companies with a special department.	59	(17)
Companies that trained their personnel.	65	(17)
Companies with an automatic distribution of the sheets.	53	(17)
Companies that use compliance tools.	77	(17)
Companies have contacts with...		
• neighbouring establishments	24	(17)
• similar companies	30	(17)
• mother company	30	(17)
• industry association	35	(17)
• sister companies in other countries	41	(17)

The British government, via the ‘Health and Safety Executive’, provided quite some instruments for companies to inform them on the safety data sheets directive. The EU directive was transposed into British legislation, together with other EU directives related to this topic, into the so-called ‘CHIP’.¹¹ The HSE made a special home page for CHIP where guidance documents can be found.¹² This guidance material is mainly meant for companies to help them with their obligations. Most guidance is made for CHIP in general and does not focus on safety data sheets alone. The first document is called ‘The complete idiot’s guide to CHIP’. This document, in simple terms, explains the purpose of CHIP and its obligations

British Approved Code of Practice, page 3.

The information required:

Safety data sheets should be written and presented in a clear and concise manner and should be dated. Wherever possible, the safety data sheet should give specific advice, qualified as necessary, rather than less useful generalisations. One sheet may be prepared for a range of products having the same classification and uses, and very similar composition. An example is a paint available in a range of colours. Where such generic safety data sheets are provided, there must be an unambiguous connection between the identification of the product as supplied, for example, on the label, and the product identification on the safety data sheet.

and describes what to do and where to obtain further information. Besides, there is the document 'CHIP 2 for everyone'. This document has the same function as 'The complete idiot's guide to CHIP'. It contains more details on what to do and how to do it. Another publication focused on the sheets in specific is the brochure 'Why do I need a safety data sheet?'. This leaflet only explains why the sheets are important and it does not specify what should be described under the 16 headings. These three documents are rather general and do not prescribe what a safety data sheet should look like in specific. They are totally non-prescriptive; they are mainly meant to inform companies about the obligations in general. For more detailed information the 'Approved Code of Practice on safety data sheets for substances and preparations for supply' must be used. This code describes the 16 headings and explains what kinds of aspects companies are expected to mention under these headings. Next to this governmental guidance, the 'Chemical Industry Association' also handed out a document on the compilation of safety data sheets. Besides, some workshops have been organised for companies on the compilation of sheets by the 'Chemical Hazard Communication Society'. Especially 'CHIP 2' and the 'Approved Code of Practice' are used quite extensively by the companies.

6.4.2 *Workload*

The numbers of sheets companies have to make vary between one and 3.000. The average number of sheets British respondents make is about 350 sheets. In percentages, most British respondents make between ten and hundred sheets. Generally speaking, British companies have only one person in charge of all safety data sheets requirements. One company even has no personnel at all that is responsible for the SDS compliance since they completely outsource this task. The total time spent by companies on SDS compliance varies between one to twenty hours per week. On average, British companies spend seven hours per week on making, updating and distributing their sheets. Half of the companies even spend less than five hours per week on this topic. Most companies spend half a day on making the sheets and it is not common for companies to regularly update their sheets.

Table 6.8: Workload in Great Britain (answers in percentages; number of respondents in brackets)

Number of sheets a company produces.	Varying from 1 to 3,000; average 350.	
Number of sheets in categories:		(16)
• < 10	25	
• 10-100	31	
• 100-500	25	
• 500-1000	0	
• 1000-5000	19	
• > 5000	0	
Number of people making sheets:		(17)
• 0	6	
• 1	41	
• 2	29	
• 3-5	12	
• > 5	12	
Hours per week on making sheets:	Varying from 1 to 20; average 7 hours.	
Hours per week on making sheets in categories:		(16)
• < 10	75	
• 10-50	25	
• 50-100	0	
• > 100	0	
Time per sheet:		(15)
• < 1 hour	0	
• 1-2 hours	33	
• 4 hours	40	
• 1 day	20	
• > 1 day	7	
Frequency of updating sheets:		(16)
• every 3 months	13	
• every year	56	
• < every year	31	
Different sheets for different countries.	44	(16)

6.4.3 *Level of compliance*

All British companies are of the impression that they comply closely with the safety data sheets legislation. They think their sheets fulfil all requirements mentioned in the European directive. None of the companies mentioned to have any problems with the compliance.

Inspectors, on the contrary, do not agree with the optimistic attitude of companies at all. Only one of the inspector respondents agrees that companies comply well with the safety data sheets legislation. The British inspectors who participated in the special enforcement project

are very negative about the level of compliance with the safety data sheets legislation of companies. This is rather logical seen the fact that their project was focused on a group of smaller companies that is not regularly inspected and of which it was expected that they would not fully comply. Larger companies are considered to comply better than smaller companies are. Also manufacturers are considered to be better compliers than traders are. The respondents notice a problem with traders of dangerous substances and preparations. Sometimes these traders think it is not their obligation to deliver sheets; they feel that the manufacturers must provide the correct data. Traders handle the obligations in a more lenient way; there are examples of companies summarising the sheets in one page because otherwise they find the document too lengthy. Traders, when they change something to a product, tend not to change the safety data sheet accordingly.

Table 6.9: Level of compliance in Great Britain (answers in percentages; number of respondents in brackets)

	Companies		Inspectors	
We / companies comply well.	100	(17)	14	(7)
Larger companies comply better than smaller companies do.			100	(7)
Manufacturers comply better than traders do.			100	(7)
Problems with the compliance?	no			

6.5 Spain¹³

6.5.1 General organisation

In Spain there is no instrument for companies to help them make their safety data sheets. There sometimes are general workshops organised by the industry associations. In the summer of 2001, for example, Feique organised a workshop on product stewardship in general and safety data sheets was a small aspect of this. The legal framework was explained and a company demonstrated how they make their sheets. The problem is that only large companies come to such workshops and they usually already know about the legislation and already make good sheets.

‘Alatec’ is one of the Spanish consultant agencies that used to make safety data sheets for a few companies since 1993. Only one person was responsible for this within Alatec. Alatec was never asked to update the sheets. Alatec also provided the option for companies to buy computer programmes to make sheets. Since companies were not asking for these SDS provisions very often, Alatec stopped its ‘SDS-activities’ since 1999. There was not enough business in Spain in this area; it was unproductive. Alatec delegated their work to the consultant agency ‘Haskoning’ in the Netherlands. Now sheets for Spanish companies are made in the Netherlands, however, Haskoning does not have many clients in Spain. It is expected that most Spanish companies make their own sheets.

6.5.2 Workload

According to Feique, most companies put their main effort in this topic when the sheets were

made the first time. Feique doubts whether the sheets are updated regularly. The representative thinks the sheets now are the same as they were many years ago. Feique doubts whether companies spend much time on safety data sheets in general. A reason for this, according to this respondent, is the large amount of small and medium sized enterprises in Spain: there are about 4.000 Spanish chemical companies and 3.000 of them have less than 20 employees. These smaller companies will usually only have to make sheets for a few products. They are not expected to have good sheets, if they have them at all. A respondent from the regional health ministry in Valencia agrees with this conclusion. Especially smaller companies have many difficulties with the SDS obligations.

6.5.3 *Level of compliance*

The main problem companies have when complying with the safety data sheets legislation according to Feique is to produce the sheets in Spanish. Most companies receive their sheets from foreign suppliers and they therefore receive them in another language (usually English). It is difficult for Spanish companies to translate these sheets correctly. Automatic translators are hard to understand since they often make mistakes. Normally the translations made by automatic translators are bad and Spanish companies, especially the smaller ones, do not have the expertise to improve these bad translations. This leads to a bad quality of sheets in general.

None of the inspectors think that companies comply well with the safety data sheets legislation. According to some of the interviewees, a general problem is that many companies do not know about the safety data sheets directive and therefore are not aware of the obligations they have to comply with. Companies have problems with the complexity of the directive. In order to be able to compile sheets, companies should have knowledge in many fields of expertise such as chemical, toxicological and epidemic knowledge. There is a difference between smaller and larger companies and between manufacturers and traders. Generally, larger companies and manufacturers comply better than smaller ones and traders do. An explanation for this is that larger companies and manufacturers have better knowledge on the products.

Table 6.10: Level of compliance in Spain (answers in percentages; number of respondents in brackets)

	Inspectors	
Companies comply well.	0	(6)
Larger companies comply better than smaller companies do.	100	(6)
Manufacturers comply better than traders do.	67	(6)

6.6 Comparison of the safety data sheets compliance practices¹⁴

6.6.1 General organisation

Table 6.11: Comparison of the general organisation (answers in percentages; number of respondents in brackets)

	NL		D		GB	
How did companies learn about the concrete demands?		(19)		(19)		(17)
• inspectors	26		5		18	
• on my own	32		21		41	
• industry association	21		74		18	
• different	21		0		23	
Companies outsource SDS requirements:		(20)		(19)		(17)
• no	15		15		30	
• yes, partly	70		74		58	
• yes, completely	15		11		12	
Companies with a special department.	70	(20)	84	(19)	59	(17)
Companies that trained their personnel.	65	(20)	84	(19)	65	(17)
Companies with an automatic distribution of the sheets.	55	(20)	84	(19)	53	(17)
Companies that use compliance tools.	30	(20)	47	(19)	77	(17)
Companies have contacts with...						
• neighbouring establishments	25	(20)	37	(19)	24	(17)
• similar companies	45	(20)	58	(19)	30	(17)
• mother company	70	(20)	42	(19)	30	(17)
• industry association	75	(20)	16	(19)	35	(17)
• sister companies in other countries	40	(20)	27	(19)	41	(17)

A remarkable observation is that the general organisation in companies of the SDS compliance does not differ much between the three Member States. Of course there are some smaller differences, but these are mere nuances.

In none of the three countries there is one specific way in which companies learned about the safety data sheets requirements. In Germany it is more common that companies are informed by the chemical industry association and British companies more often tend to find out this information on their own. In all countries, only a small percentage of the companies completely delegate the SDS compliance to an external consultant agency. It is common to outsource only a part of the requirements: usually the making of the required software programme and the gathering of specific information by subscribing to a database. Only in Great Britain slightly more companies make the sheets completely on their own compared to Dutch and German companies.

There hardly is any difference between the Member States in how companies generally arrange their compliance with the SDS directive.

In Spain one of the consultant agencies that used to make sheets for companies stopped this business because there was not enough demand. This agency expects that most Spanish companies make the sheets themselves. In all three countries, a majority of the companies appointed a special department to be responsible for the safety data sheets compliance. As well, a majority of companies in all three cases arranged training for their personnel on how to make the sheets. This training was usually organised by external consultant agencies or industry associations.

The availability and usage of compliance tools by companies slightly differs between the Netherlands and Germany on the one hand and Great Britain on the other hand. In the Netherlands and Germany there is one tool available and companies do not use this regularly. Respondents in these both countries indicate to more often use the EU directive itself as a form of guidance. In Great Britain there are more tools available and companies make more extensive use of them. In Spain there are no instruments at all that companies can use as a tool to help them to compile the sheets. In Germany and Great Britain contact with other companies on the topic of safety data sheets is not very common. In the Netherlands this is somewhat more common; here companies especially have contact with the mother company and with the industry association.

6.6.2 *Workload*

At first sight it seems that companies in Germany have the heaviest workload when complying with the safety data sheets legislation whereas British companies have the lowest workload. German companies on average have the most employees working on this topic and spend the most hours per week on making the sheets. Most German companies have more than three people working on the sheets whereas British companies generally only have one employee who is responsible. German companies on average spend 90 hours per week on making, revising and distributing the sheets while in British companies this only is seven hours per week. However, when looking at the number of sheets companies are obliged to make, these differences do not exist any longer. German companies generally have more people working on this topic and spend more time on it per week because they produce many more sheets compared to the respondents in the Netherlands and especially the respondents in Great Britain. German companies, on average, produce 4.800 sheets whereas Dutch companies produce 2.000 sheets and British companies only 350 sheets. When looking at the average amount of time per week that is spent on making the sheets and the number of sheets the companies have to produce, the time per sheet is about the same in all three countries.¹⁵ It now seems that the time per sheet even is somewhat higher in Great Britain. In this respect, the workload is the same in the three Member States.

Table 6.12: Comparison of the workload (answers in percentages; number of respondents in brackets)

	NL	D	GB
Number of sheets a company produces.	Varying from 1 to 15.000; average 2.000.	Varying from 2 to 50.000; average 4.800.	Varying from 1 to 3.000; average 350.
Number of sheets in categories:	(20)	(17)	(16)
• < 10	10	6	25
• 10-100	5	6	31
• 100-500	55	12	25
• 500-1000	5	29	0
• 1000-5000	15	35	19
• > 5000	10	12	0
Number of people making sheets:	(20)	(19)	(17)
• 0	0	0	6
• 1	35	37	41
• 2	25	21	29
• 3-5	40	37	12
• > 5	0	5	12
Hours per week on making sheets:	Varying from 4 to 160; average 32 hours.	Varying from 2 to 800; average 90 hours.	Varying from 1 to 20; average 7 hours.
Hours per week on making sheets in categories:	(19)	(16)	(16)
• < 10	42	24	75
• 10-50	38	45	25
• 50-100	15	12	0
• > 100	5	19	0
Time per sheet:	(17)	(19)	(15)
• < 1 hour	29	16	0
• 1-2 hours	47	53	33
• 4 hours	24	21	40
• 1 day	0	5	20
• > 1 day	0	5	7
Frequency of updating sheets:	(18)	(19)	(16)
• every 3 months	6	16	13
• every year	50	68	56
• < every year	44	16	31
Different sheets for different countries.	53 (19)	50 (18)	44 (16)

When looking at the time companies spend per sheet, the regularity with which they update their sheets and the fact whether they produce different sheets for different countries, companies in the three countries show different results. British companies seem to spend the most

time per sheet (approximately four hours) whereas the two other countries show an average per sheet of one to two hours. This seems logical since it would be expected that companies that produce only a few sheets spend more time per sheet than companies that have to produce thousands of sheets. The amount of time that is necessary to make one safety data sheet differs per product. In general, the time per sheet depends on a few aspects such as the information that is already available and the number of components. It depends on whether the product is a substance or a preparation. Preparations are more complicated and thus it takes more time to make a sheet. If a product looks like something that is already on the market, some cutting and pasting in an older sheet will do most of the work. When much information is already present, a sheet can be made within fifteen minutes to half an hour. However, when not much information is available, the making of a sheet can take as long as a couple of hours to an entire day. The time necessary also depends on the quality of the sheets submitted by a company's own suppliers. If this quality is good, the making of a sheet does not take up much time.

There is a logical explanation for the fact that German companies produce the most sheets and thus have the highest workload: the German questionnaire respondents are larger than the Dutch and British respondents are.¹⁶ The fact that British companies seem to produce the least sheets – and thus have a lower workload – can be explained by the fact that the British respondents on average are the smallest companies. Because of this difference in company size between the respondents from the three countries, it is not possible to say anything about the workload per country. The workload seems to depend on the number of sheets companies have to produce and therefore differs *within* countries and not so much *between* countries. Dividing the companies according to the number of sheets they produce and not according to country can check this hypothesis. This leads to the distinction as shown in table 6.13. This table shows that companies that produce more sheets indeed have more people working on the topic of safety data sheets. They also spend more hours per week on making the sheets. The time per sheet is slightly higher in the companies that produce fewer sheets. This result could be expected since it is rather logical that companies that make many sheets have more routine and a more accurate system to produce sheets and can therefore make their sheets faster. The question whether companies often update their sheets or whether they produce different sheets for different countries does not seem to be related to the number of sheets a company has to produce.

Table 6.13: Workload divided according to the number of sheets (answers in percentages; number of respondents in brackets)

	companies with < 100 sheets	companies with 100-500 sheets	companies with 500-1000 sheets	companies with > 1000 sheets
Number of people making sheets:	(15)	(16)	(6)	(16)
• 0	0	0	0	0
• 1	40	56	33	25
• 2	20	25	17	31
• 3-5	33	13	50	38
• > 5	7	6	0	6
Hours per week on making sheets:	(15)	(16)	(3)	(16)
• < 10	67	38	33	18
• 10-50	26	56	33	45
• 50-100	7	6	33	12
• > 100	0	0	0	25
Time per sheet?	(15)	(14)	(6)	(16)
• < 1 hour	0	28	17	19
• 1-2 hours	54	28	66	50
• 4 hours	26	36	17	19
• 1 day	13	8	0	6
• > 1 day	7	0	0	6
Frequency of updating sheets:	(15)	(15)	(6)	(16)
• every 3 months	6	19	0	6
• every year	54	45	83	63
• < every year	40	31	17	31
Different sheets for different countries.	40 (15)	44 (16)	50 (6)	56 (16)

6.6.3 Level of compliance

In all countries, companies are enthusiastic about their own level of compliance. Except for two Dutch companies, all respondents are of the impression that their company complies closely with the safety data sheets directive. Inspectors do not agree with this. Especially British and Spanish inspectors are very disappointed in the compliance practice of companies.

Companies are more positive about their own compliance rate than inspectors are about the compliance practice of companies.

When looking at the quality of sheets, inspectors in the four Member States agree that manufacturers of dangerous products usually have better sheets than traders. Traders usually have fewer experts working for them and focus more on the actual trade. Companies that are a member of an industry association also have a better reputation when it comes to the quality of the sheets. They usually are more in touch with the existence of the legislation and had the chance to participate in workshops arranged by the industry association. Both inspectors and companies also indicate that in practice sheets from larger companies are more accurate and comprehensible than those from

smaller companies. A few multinationals even have a policy to just buy products from companies that deliver good safety data sheets.

Manufacturers and larger companies are better compliers than traders and smaller companies are.

Table 6.14: Comparison of the level of compliance (answers in percentages; number of respondents in brackets)

	NL		D		GB	
	companies	inspectors	companies	inspectors	companies	inspectors
We / companies comply well.	90	(20) 50 (8)	100	(19)	100	(17) 14 (7)
Larger companies comply better.		87 (8)			100	(7)
Manufacturers comply better.		87 (8)			100	(7)
Problems with compliance?	- harmonise occupational exposure levels - hard to get information - do not receive good sheets		- difficult to obtain information - harmonise different national legislation		no	

Problems with the compliance mentioned by the respondents are alike. Many companies mention that some information is hard to obtain. It is seen as rather complicated that the 'occupational exposure level values' are different in all countries (see section 6.1.2.) These different national requirements are difficult to obtain and this makes the compilation of the sheets more complicated. Some companies indicate that they would like to see Europe regulate this topic.

Notes

- 1 In practice, companies in all four countries also provide safety data sheets for their non-dangerous products.
- 2 The information in the country descriptions is derived from interviews with and questionnaires completed by companies in the four Member States. The following table shows the number of interviews and questionnaires per country. In Spain there are no questionnaire respondents. (For more information, see Annex I on interviews and questionnaires.)

	NL	D	GB	E
Number of:				
interviews companies	6	3	3	0
interviews industry associations	2	1	1	2
questionnaires companies	20	19	17	0

- 3 In heading 8 of their sheets companies have to mention the exposure control means. This is the maximum accepted concentration of gas, vapour, haze or dust in the air of the workplace. This value is used as an instrument to diagnose whether workers are exposed to a hazardous concentration of a substance.
- 4 Normally the software systems to make safety data sheets work with codes that represent standard sentences. Each of these codes represents one sentence on the sheet. For all possible sentences a safety data sheet might contain, a specific code has been selected. For example, the sentence 'handle in well ventilated area' has its own code. Within the system each possible sentence has been entered in all languages necessary for that specific company. In order to make a sheet, the compiler only has to enter the appropriate code into the system. In this way, the compiler only has to enter the codes once after which he/she can select the language necessary to obtain the sheet in the required language. Some of the advanced SDS-systems are linked to the order-management system to make sure that the sheets are sent to the clients at the right time. They have a function to make sure that all revisions are sent as well.
- 5 'Wie levert, levert er een Veiligheidsinformatieblad bij!', Ministry of Social Affairs and Employment, October 1994.
- 6 'AI-blad 26. Veiligheidsinformatiebladen en werkpleketikettering.' Ministry of Social Affairs and Employment, 2000.
- 7 The 19 German questionnaire respondents come from North-Rhine Westphalia (36%), Baden-Württemberg (32%) and Bavaria (32%). Since there are no obvious differences in the answers of the respondents from the three Länder, the information in this section will be presented as the 'German' compliance practice in general.
- 8 'Technische Regeln für Gefahrstoffe (TRGS 220) – Sicherheitsdatenblatt für gefährliche Stoffe und Zubereitungen'.
- 9 'BG Chemicals' does help the chemical companies with information related to the topic of safety data sheets. Since the quality of the sheets often is insufficient, and therefore hard to use for companies, 'BG Chemicals' created a database with information on about 7000 substances: 'GESTIS database'. The descriptions in the GESTIS database are, compared to the official safety data sheets according to the EU standards, more practical. GESTIS is mainly meant for users of dangerous substances to enable them to look up specific information on these substances. The database is not meant as a help for suppliers of substances on how to make a safety data sheet.

- 10 Since there are no questionnaire respondents among the German inspectors, there is no information available on the opinion of inspectors of compliance by companies.
- 11 'The Chemicals (Hazard Information and Packaging for Supply) Regulations 1994'.
- 12 <http://www.hse.gov.uk/hthdir/noframes/chip/chip1.htm>
- 13 Unfortunately no questionnaire respondents were available (for more information, see Annex I on interviews and questionnaires). The information on the compliance practice in Spain is therefore only based on six interviews: one with a representative of the Spanish chemical industry association (Feique), one with a representative of a consultant agency that makes safety data sheets for companies (Alatec) and four with inspectors.
- 14 Since there are no questionnaire results available for Spain, the comparison in this section only focuses on the Netherlands, Germany and Great Britain. Where possible and available, some general comparing remarks on Spain are made.
- 15 In the Netherlands, 2.000 sheets per 32 hours means 0,016 hour per sheet. In Germany 4.800 sheets per 90 hours means 0,019 hour per sheet. In Great Britain, 350 sheets per 7 hours means 0,02 hour per sheet.

	NL	D	GB
Size of the respondents (number of employees):	(20)	(19)	(17)
• 1-10	10	0	23
• 10-50	25	16	12
• 50-100	30	16	18
• 100-500	25	47	35
• 500-1000	0	5	12
• > 1000	10	16	0

Comparison of the enforcement and compliance practices: can different enforcement styles and compliance costs be distinguished?

7.1 Introduction

In an attempt to check whether Member States enforce and regulated comply with EU directives differently, the previous four chapters described the Seveso II and safety data sheets enforcement and compliance practices. These chapters showed that the first two research questions on whether there are differences between Member States in how inspectors enforce and regulated comply with European legislation can whole-heartedly be answered with ‘yes’. The Seveso II case showed that Dutch and British inspectors more intensively enforce this directive than German and Spanish inspectors do. As well, upper tier establishments in the Netherlands and Great Britain show a higher workload when writing a safety report compared to companies in the other countries. The safety data sheets case also showed differences between the Member States, especially differences related to the enforcement practices. In this example, however, the compliance practices do not seem to differ extensively between the four countries.

What do these enforcement and compliance practices learn us about enforcement styles and compliance costs? Can these differences in enforcement and compliance be expressed in so-called ‘enforcement styles’ and ‘compliance costs’? This last chapter of Part II, first of all, compares the enforcement styles of inspectors in the four Member States. It focuses on possible similarities and differences in the ways in which inspectors in different countries enforce the same directive. Secondly, the compliance practices and their related compliance costs for companies are compared. Do companies in different countries have different compliance costs while complying with the same European directive?¹ The last section of this chapter compares the two directives; it compares enforcement practices and enforcement styles of inspectors and compliance practices and compliance costs of companies. Do the Seveso II and safety data sheets directives result in different types of enforcement styles and do they generate different compliance costs?

The variables used to operationalise the concepts ‘enforcement styles’ and ‘compliance costs’ were introduced in chapter two. This introduction showed that the enforcement styles are operationalised in three categories: (1) intensity of the inspections and the assessments, (2) sanctioning approach and (3) the relationship with companies. Variables within each of these three categories are graded on a scale of one to five points. The total score for Seveso II can be 100 points and for safety data sheets 80 points since there is no such thing as an assessment; high scores represent a legalistic enforcement style and low scores a passive style. For more information on the variables and the weighting of the points, see chapter 2, section 2.1.2.

The compliance costs are operationalised in two categories: (1) costs directly imposed by the government and (2) costs companies make themselves. The costs imposed by the government are divided into costs for inspections, assessments and sanctions. The costs companies make themselves differ per directive. Again, the variables are graded in points; for more information, see chapter 2, section 2.1.4.

7.2 The Seveso II enforcement styles

7.2.1 Intensity of the inspections

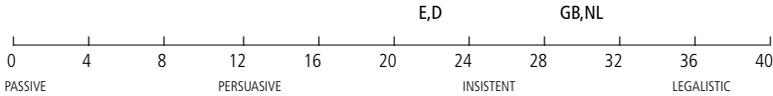
Table 7.1: Intensity of the Seveso II inspections (the points are allocated based on table 3.23 in chapter 3, section 3.6.3)

	NL	D	GB	E	maximum
Special projects on Seveso II.	5	5	5	5	5
Number of inspectors.	4	2	5	2	5
Number of man-days per inspection.	4	1	5	2	5
Time inspectors spend per company.	5	3	4	3	5
Usage of an inspection-plan.	3	3	5	2	5
Usage of an inspection tool.	4	3	1	2	5
Inspections on the directive alone.	2	2	1	3	5
Frequency of inspections.	3	3	4	3	5
Total score intensity of the inspections:	30	22	30	22	40

All four Member States actively enforce the Seveso II directive in the form of special projects. In all cases, teams are selected to inspect the Seveso II establishments regularly. Great Britain appoints the largest inspection teams per upper tier establishment of four to six inspectors. Dutch teams are slightly smaller, but still rather large in comparison to the one or two inspectors involved in Germany and Spain. This gives British and Dutch inspectors the opportunity to inspect more aspects more thoroughly compared to German and Spanish inspectors. Especially inspectors in Great Britain work according to an inspection-plan and especially Dutch inspectors make extensive use of an inspection tool. Inspection-plans and special tools make the inspection more legalistic since it prescribes a certain focus and leaves less room for inspectors' own interpretation. Inspections focused on Seveso II alone are rather common in Spain; more than half of the Spanish inspections focus on the topic of this directive entirely. Because of the large teams in the Netherlands and especially in Great Britain, the total number of man-days per inspection in these countries is rather high. The total time inspectors spend per company (preparations, inspections and aftercare) is the highest in the Netherlands. The frequency of future annual inspections is about the same in the four Member States, although slightly more frequent in Great Britain. The German and Spanish inspection styles can be characterised as insistent and the Dutch and British inspectors find themselves on the dividing line between an insistent and a legalistic inspection style.

All Member States show a rather intensive inspection approach related to the Seveso II directive, especially in the Netherlands and Great Britain where the inspection style can be situated on the dividing line between insistent and legalistic

Figure 7.1: Intensity of the Seveso II inspections



7.2.2 Intensity of the assessment

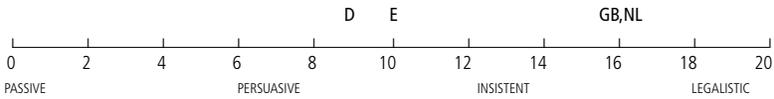
Table 7.2: Intensity of the assessment (the points are allocated based on table 3.22 in chapter 3, section 3.6.2)

	NL	D	GB	E	maximum
Number of assessors.	4	3	4	3	5
Number of man-days per assessment.	4	3	5	2	5
Usage of an assessment tool.	5	1	5	1	5
Number of times companies have to rewrite the report.	3	2	2	4	5
Total score intensity of the assessment:	16	9	16	10	20

The number of assessors is the highest in Great Britain, followed by the Netherlands. British assessors, however, more often only assess a part of the safety report whereas in the Netherlands it is quite common for inspectors to assess the entire report. In Spain no exact numbers are available yet, but the number of assessors is likely to be slightly lower compared to the two to three persons involved in Germany. These Spanish assessors are assessing the entire report more often than the German assessors are. There seems to be a trend to have large teams with assessors who only assess small parts of the report (GB) or slightly smaller teams with assessors who all check the entire report (E). Only in the Netherlands and Great Britain assessment tools are available of which inspectors make extensive use. The 600-page long ‘Safety Report Assessment Manual’ in Great Britain and the (less extensive) Dutch tool lead to a legalistic assessment of the safety report. Especially Dutch and Spanish assessors are rather demanding in that they frequently ask companies to rewrite their safety reports. The British teams spend the highest total number of man-days per assessment. The total number of man-days per assessment in both Great Britain and the Netherlands is higher than it is in Germany and Spain where smaller teams carry out the assessment. Dutch and British inspectors in total spend between 20 and 50 man-days per assessment, whereas in Germany and Spain the total number of man-days is not likely to be higher than 20 (Spain) or 30 (Germany). The assessment style is thus ‘legalistic’ in the Netherlands and Great Britain, whereas Spain shows an assessment style on the dividing line between ‘persuasive’ and ‘insistent’ and the German style can be characterised as ‘persuasive’.

The intensity of the safety report assessment can be labelled ‘legalistic’ in the Netherlands and Great Britain and ‘persuasive/insistent’ in Germany and Spain.

Figure 7.2: Intensity of the assessment



7.2.3 *Sanctioning approach*

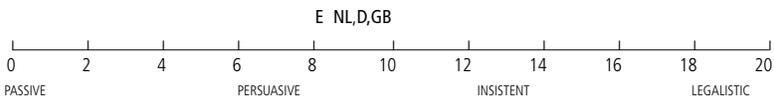
Table 7.3: *Seveso II* sanctioning approach (the points are allocated based on table 3.24 in chapter 3, section 3.6.4)

	NL	D	GB	E	maximum
Speed with which inspectors impose sanctions.	2	3	3	2	5
Inspectors do not consider company-specific circumstances.	3	2	2	4	5
Sanctions decided upon according to a manual.	2	3	3	1	5
Percentage of companies that received a sanction for this directive.	2	1	1	1	5
Total score sanctioning approach:	9	9	9	8	20

The expectations of the future frequency of sanctioning for *Seveso II* infringements are equal in all four Member States. Inspectors in none of the countries expect to impose sanctions on a regular basis. Dutch and especially Spanish inspectors often expect to give companies second chances to improve the compliance practice; they expect to warn first in most of the cases. Despite giving companies second chances, Spanish inspectors claim not to consider company-specific circumstances when deciding whether to sanction or not. German and British inspectors do seem to be rather lenient in that they consider quite some aspects before imposing a sanction. Compared to Dutch and Spanish inspectors they more often consider the costs to undo an infringement. Of the four Member States, the Netherlands was the only country, up until 2001, to actually have sanctioned for a *Seveso II* infringement. None of the Member States show a legalistic sanctioning approach; inspectors will normally first warn a company and will not immediately impose sanctions. The differences between the four countries are to be neglected.

In all four Member States the sanctioning style is persuasive: inspectors hardly sanction and often warn first or consider company-specific circumstances.

Figure 7.3: *Seveso II* sanctioning approach



7.2.4 Relationship with companies

Table 7.4: Relationship with companies (the points are allocated based on table 3.25 in chapter 3, section 3.6.5)

	NL	D	GB	E	maximum
Inspectors do not consider a good relationship to be necessary / feel dependent on companies.	1	1	2	1	5
Discussion on the content is not important.	1	1	2	2	5
Relationship is not based on co-operation.	1	1	1	1	5
Inspectors do not often give advice.	2	1	2	1	5
Total score relationship:	5	4	7	5	20

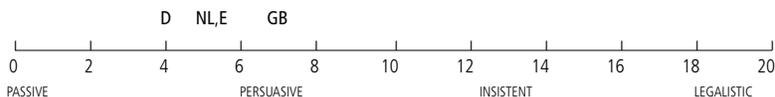
In Germany the relationship between inspectors and companies can be indicated as ‘passive’, in the Netherlands and Spain as ‘passive/persuasive’ and in Great Britain as ‘persuasive’. In all four cases – the least in Great Britain

– inspectors feel to be rather dependent on companies for receiving the right information in order to be able to enforce the Seveso II directive to the full. They feel that a good relationship is necessary to achieve correct enforcement.

When enforcing Seveso II, inspectors in all four Member States feel themselves to be rather dependent on companies; a characteristic related to a passive or persuasive enforcement style.

Thus the Seveso II inspections in all cases are based on co-operation between inspectors and companies. There often are discussions on the content of the Seveso II directive and inspectors – especially German and Spanish ones – often advice companies. The co-operative attitude of inspectors and their willingness to discuss the legislation and to offer advice on how to comply all point to a conciliatory type of enforcement style.

Figure 7.4: Relationship with companies



7.2.5 Concluding comparison of the Seveso II enforcement styles

When combining the four scores on the enforcement style – intensity of the inspections and the assessment of the safety report, sanctioning practice and the relationship between inspectors and companies – the following overall score becomes available.

Table 7.5: Overall score of the Seveso II enforcement style

	NL	D	GB	E	maximum
Total score intensity of the inspections.	30	22	30	22	40
Total score intensity of the assessment.	16	9	16	10	20
Total score sanctioning approach.	9	9	9	8	20
Total score relationship.	5	4	7	5	20
Overall score enforcement style.	60	44	62	45	100

Table 7.6: Interpretation of the overall score

Types of enforcement styles	
0-25	Passive: an extreme lenient enforcement style where the inspector does not dare or care to undertake action against regulated that do not comply with the legislation. Inspections are rare.
26-50	Persuasive: a rather lenient enforcement style with an emphasis on explaining the law and discussing possible solutions to undo infringements with the regulated. The aim is to persuade companies to comply with the law.
51-75	Insistent: a mixture between a lenient and a legalistic approach. Inspectors will first try to persuade companies, but are not afraid to imposed sanctions when companies do not respond to this. Inspections take place regularly.
76-100	Legalistic: a strict enforcement approach where inspectors do not give regulated second chances but punish immediately. Inspections are very frequent.

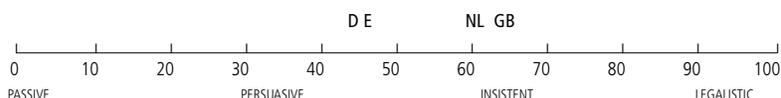
The Netherlands and Great Britain both show an insistent enforcement style when enforcing the Seveso II directive, whereas Germany and Spain show a persuasive enforcement style. The sanctioning approach and the elements related to the relationship between inspectors and companies are rather comparable between the Member States. Inspectors in none of the countries expect to sanction often for Seveso II infringements and all inspectors feel themselves to be rather

Because of their intensive inspections and assessments, Dutch and British inspectors show an insistent enforcement style when enforcing the Seveso II directive. Because of less intensive inspections and assessments, the German and Spanish styles can be characterised as 'persuasive'.

dependent on companies for receiving all information necessary for correct enforcement. Therefore the insistent approach in the Netherlands and Great Britain is indebted to the more legalistic approach regarding the intensity of the inspections and the assessment of the safety report. In both the Netherlands and Great Britain, safety reports are assessed in a thorough and consistent manner and inspections are planned frequently and take up a considerable amount of man-days. In Germany and Spain the assessment of the safety report and inspections do take place, but are less demanding than the practices in the other two countries are. However, in these two countries the inspection and assessment practices were still under construction. This might be an explanation for the more lenient enforcement styles and perhaps this will change in the future when more experience is gained. The persuasive enforcement

style in Germany and Spain is combined with a slightly better and more co-operative relationship between inspectors and companies compared to the Netherlands and Great Britain.

Figure 7.5: Comparison of the Seveso II enforcement styles



7.3 The Seveso II compliance costs

7.3.1 Costs imposed by the government

a) Costs for inspections

Table 7.7: Costs for Seveso II inspections (the points are allocated based on table 3.23 in chapter 3, section 3.6.3)

	NL	D	GB	E	maximum
Number of man-days per inspection.	2	1	2	1	2
Frequency of the inspections.	3	3	3	3	3
Charging for inspections.	1	3 (?)	6	2	10
Total score costs for inspections.	6	7	11	6	15
Average annual charging costs.	no charging	?	€5.000	€1.400	-16.000

In all four Member States the indirect costs Seveso II companies have for touring inspectors are comparable. In all four cases the frequency of inspections is high: about once or twice per year. The numbers of man-days per inspection are slightly higher in the Netherlands and Great Britain since the teams of inspectors are larger in these two countries.

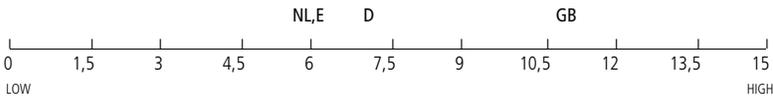
The direct costs for Seveso II inspections are the highest in Great Britain, however, since here companies also – besides the indirect costs of touring inspectors – are charged for the inspections. In Great Britain a charging manual gives examples of what operators can expect to pay for inspections.² Different examples related to different company sizes are presented. The manual mentions one example of six and a half days per year (5 for safety and 1,5 for environmental inspection) for a smaller company and another example of 21 days per year (15 for safety and 6 for environmental) for a larger company. With the charging rate of 165 euro per hour, these examples lead to an amount of 5.000 euro per year for a smaller company and 16.000 euro per year for a larger company.³

Costs for sanctions are very low. Only in the Netherlands one company had to pay a fine of 2300 euro. Thus only one company of all 45 questionnaire respondents received a fine.

Germany and Spain also charge Seveso II establishments for the inspections. In Germany there are not yet any examples of paid inspections, but all three Länder are thinking of charg-

ing companies in the future. Also in Spain the situation is still rather unclear since the Autonomous Communities do not yet have any legislation that addresses this issue. The respondents did express their intentions to arrange this in the future. Four of the Spanish questionnaire respondents already mentioned costs for charging for Seveso II inspections up until now. These annual charging rates are lower than they are in Great Britain.⁴ Dutch companies are not charged at all for the inspections; they only have the indirect costs of touring inspectors.

Figure 7.6: *Costs for Seveso II inspections*



b) *Costs for sanctions*

Table 7.8: *Costs for Seveso II sanctions (the points are allocated based on table 3.24 in chapter 3, section 3.6.4)*

	NL	D	GB	E	maximum
Frequency with which inspectors detect violations.	2	1 (?)	1	1	2
Frequency with which inspectors impose fines.	2	1 (?)	1	1	3
Total score costs for sanctions.	4	2	2	2	5

The descriptions of the Seveso II enforcement practices in chapter three already showed that upper tier establishments in none of the four Member States have to be afraid of high costs for sanctions. Only in a few of the Dutch companies (21% of the 28 Dutch respondents) a Seveso II –related violation was found and these companies generally were warned before the inspectors imposed an official sanction. A violation does mean some work, and thus costs, for the company to undo the infringement. Of these detected companies, only one actually received a formal sanction; a fine of 2300 euro.

Costs for sanctions are very low. Only in the Netherlands one company had to pay a fine of 2300 euro. Thus only one company of all 45 questionnaire respondents received a fine.

Figure 7.7: *Costs for Seveso II sanctions*



c) Costs for the assessment

Table 7.9: Costs for the assessment (the points are allocated based on table 3.22 in chapter 3, section 3.6.2)

	NL	D	GB	E	maximum
Number of times companies are visited during the writing of their report.	4	2	3	2	5
Charging for the assessment.	1	6	8	4	10
Total score costs for the assessment.	5	8	11	6	15
Average charging costs. ⁵	no charging	€26.400	€46.200	€13.200	

Dutch Seveso II companies have the highest indirect costs for hosting inspectors while writing their safety report. On average, Dutch inspectors visit the upper tier establishments two to five times during the writing phase. In the other three Member States, especially in Germany and Spain, companies are visited less often, if visited at all.

Besides the indirect costs for hosting inspectors during the writing phase, Dutch companies cannot expect more costs imposed by the government related to their safety report assessment. Dutch companies are not charged for the assessment of their safety report. In the other three Member States, upper tier establishments do have to pay for the assessment of the safety report. German authorities in all three Länder intend to ask money for the assessment in the future; at the moment of conducting this research there was no charging practice yet. In Catalonia it is already decided that companies have to pay for the assessment.⁶ During the time of conducting this research it was not yet known whether the other Autonomous Communities will follow this example, but it is expected that they will.⁷ British companies also have to pay for the assessment; they are charged at a rate of 165 euro per hour that the inspectors spend on the assessment.⁸

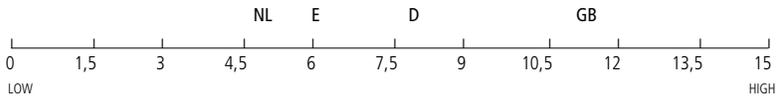
Example in the British charging guide, page 22.
 'An establishment manufacturing chemical products using ethylene oxide and propylene oxide primarily, plus a number of other dangerous substances. Up to 150 people may be on site at any one time. The safety report is a single volume covering all activities. The examination of this type of report is expected to involve:

- Safety assessment – 32 days;
- Environmental assessment – 6 days.'

The British charging rate of 165 euro per hour can be used as a reference to calculate the average costs per assessment in Great Britain, Germany and Spain. By using the average number of man-days per assessment (see table 3.22 in chapter 3, section 3.6.2), multiplied by eight hours per day and 165 euro per hour, charging rates can be calculated. On average, British inspectors spend 35 days per assessment. Multiplied by eight hours per day and 165 euro per hour, this leads to a sum of 46.200 euro per assessment. This same calculation can be applied to German and Spanish assessments, assuming that the rate of 165 euro per hour is applicable in these countries as well. In that case, an average German company would have to pay 26.400 euro per assessment (20 days x 8 hours x 165 euro) and an average Spanish upper tier

establishment would have to pay 13.200 euro per assessment (10 days ¥ 8 hours ¥ 165 euro). In total, British companies are thus likely to have the highest costs for the assessment of the safety report.

Figure 7.8: *Costs for the assessment*



7.3.2 *Costs for the workload of companies*⁹

With a maximum of thirty-five points for the costs imposed by the government, the adding of sixty-five points for the workload of companies makes the total possible score for the Seveso II compliance costs 100 points. The reason why the category ‘workload’ accounts for more points than the costs imposed by the government do, is that this category especially puts a stamp upon the height of the compliance costs. The costs for the internal workload in practice are higher than the costs for aspects such as charging or sanctions are.

The costs of companies for the workload are these costs related to internal or external personnel who write the safety report. In the case of the Seveso II directive costs for hardware or software are not included. Only a few companies mentioned costs for software; most companies, however, outsourced the risk assessments – *the* topic for which software programmes are necessary. The costs for outsourcing thus replace the costs for software. None of the companies estimated costs for hardware related to the Seveso II directive.

The most important aspect that leads to compliance costs for companies in the case of the Seveso II directive is the total amount of time companies spent on the writing of the safety report. Companies can also have costs for outsourcing certain requirements and they can have further costs after the completion of the safety report: the report has to be updated at least once every five years. Together these three elements lead to an overview of the costs related to the workload when complying with the Seveso II directive. Since one of these three elements especially influences the height of the compliance costs – the actual time spent on writing the safety report – this element weights the heaviest: fifty of the sixty-five points for the workload are allocated to the writing of the safety report. Actual costs for outsourcing (10 points) and future employees (5 points) are lower and therefore account for fewer points.

Table 7.10: *Costs for the Seveso II workload (the points are allocated based on table 4.11 in chapter 4, section 4.6.2)*

	NL	GB	E	maximum
Costs for writing the safety report.	45	25	8	50
Costs for outsourcing.	5	2	8	10
Costs for employees after finishing the report.	1	2	2	5
Total score workload.	51	29	18	65
Average outsourcing costs.	€40.000	?	€71.000	

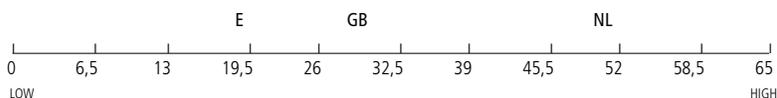
The workload for Seveso II upper tier establishments is the highest in the Netherlands. This mainly has to do with the fact that Dutch companies appointed the largest teams for the writing of the safety report and spent the most time in total to complete their report. In the Netherlands, a Seveso II upper tier company on average spent 11 months with 4,5 employees on writing the report. Thus Dutch companies have a higher workload compared to British companies that on average spent 9 months with 3 employees and especially compared to Spanish companies that on average only spent 3 months with 2,5 employees on the writing of the safety report.¹⁰

Dutch Seveso II upper tier establishments have the highest costs related to the workload when writing a safety report. The main reason for this is that they spent more time on the writing of the report than British and especially Spanish companies did.

The outsourcing costs in the Netherlands and Spain are higher than the British costs for outsourcing are. The reason for this is that in Great Britain it is rather uncommon to outsource the safety report requirements; companies usually write the reports themselves. In the Netherlands, 24 respondents estimated their costs for outsourcing certain requirements (usually the risk assessment). These estimates varied from 11.000 to 115.000 euro: on average a Dutch upper tier company spent 40.000 euro on outsourcing safety report obligations.¹¹ In Spain five companies mentioned their outsourcing costs and these varied from 12.000 to 250.000 euro; 71.000 euro on average.¹² It is rather logical that the outsourcing costs are higher in Spain since more Spanish companies completely outsource the writing of the safety report compared to Dutch companies.

The costs for future personnel for updating and revising the safety report are comparable in the three Member States. Dutch companies expect to need slightly less than one full-time employee, British companies expect one full-time employee and Spanish companies slightly more than one full-time employee.

Figure 7.9: Costs for the Seveso II workload



7.3.3 Concluding comparison of the Seveso II compliance costs

When combining the costs imposed by the government and the companies' internal workload, the following overall score becomes available.

Table 7.11: Overall score Seveso II compliance cost

	NL	D	GB	E	maximum
Total score costs imposed by the government. ¹³	15	17	24	14	35
Total score costs workload.	51	-	29	18	65
Overall score compliance costs.	66	-	53	32	100

Upper tier companies in the Netherlands have the highest compliance cost when complying with the Seveso II directive. British companies come second and Spanish companies have the lowest compliance costs. The main reason why the Dutch upper tier establishments seem to have the highest costs is because they gave the highest estimations for their total workload for the compilation of the safety report. British companies have the highest costs imposed by the government since they have to pay a high rate for the inspections and for the assessment of the safety report. The Spanish compliance costs are the lowest. Their internal workload on average is less demanding and they do not have to pay for the assessment and the inspections, but these costs are considerably lower than they are in Great Britain. Especially the costs for sanctions are extremely low in the three Member States.

Dutch companies have the highest costs for the writing of the safety report and British companies have the highest costs imposed by the government. Overall, Dutch compliance costs are the highest and Spanish costs the lowest.

In general, compliance costs do seem to be related to company size. In all three countries larger companies have a higher workload for writing the safety report than smaller companies have. With regard to outsourcing, the costs do not automatically seem to be related to company size. In Spain larger companies have higher costs for outsourcing whereas in the Netherlands smaller companies spent more money on this aspect. Overall, however, the variation between companies within countries is smaller than the variation between countries. There are more differences in compliance costs between the various Member States than there are between smaller and larger companies within the Member States.

7.4 The safety data sheets enforcement styles

7.4.1 Intensity of the inspections

Table 7.12: Intensity of the SDS inspections (the points are allocated based on table 5.18 in chapter 5, section 5.6.2)

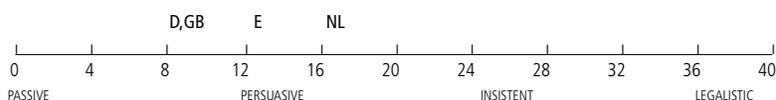
	NL	D	GB	E	maximum
Special projects on SDS.	3	1	1	2	5
Number of inspectors.	1	1	1	1	5
Number of man-days per inspection.	1	1	1	2	5
Time inspectors spend per company.	2	1	1	1	5
Usage of an inspection-plan.	4	1	1	2	5
Usage of an inspection tool.	4	2	2	3	5
Inspections on the directive alone.	1	1	1	1	5
Frequency of inspections.	1	1	1	1	5
Total score intensity of the inspections:	17	9	9	13	40

None of the four Member States show an intense approach in inspections of safety data sheets. Only in the Netherlands, the inspection style related to the SDS directive can be con-

sidered somewhat more intensive than the style in the three other Member States is. The main reason for this slightly more intensive approach can be found in the fact that there are more SDS-related inspection projects in the Netherlands and the inspectors make more use of an inspection-plan and an inspection tool. Germany and Great Britain show the most passive inspection styles. The main reasons for this are that these two countries only showed one specific inspection project up until now, have no inspection-plans and show a lower frequency of inspections compared to the Netherlands. Spain can be found somewhere in between the Netherlands and the two other countries. Spain shows a slightly more intensive approach than Germany and Great Britain do because two of the four Autonomous Communities (Madrid & Andalucia) do have regular inspections and inspection-plans and tools are used somewhat more frequently.

The inspection style in Germany and Great Britain can be indicated as passive since – after only one special project – the inspection of sheets is rare.

Figure 7.10: Intensity of the SDS inspections



7.4.2 Sanctioning approach

Table 7.13: SDS sanctioning approach (the points are allocated based on table 5.19 in chapter 5, section 5.6.3)

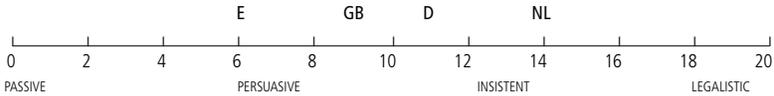
	NL	D	GB	E	maximum
Speed with which inspectors impose sanctions.	3	2	2	1	5
Inspectors do not consider company-specific circumstances.	4	3 (?)	2	3	5
Sanctions decided upon according to a manual.	4	3 (?)	3	1	5
Percentage of companies that received a sanction for this directive.	3	3	2	1	5
Total score sanctioning approach:	14	11	9	6	20

The sanctioning style of Dutch inspectors can be considered as rather insistent. The main reasons for this strictness in the Netherlands are that inspectors do not warn companies as much as their colleagues in other countries before they impose sanctions, and they are less likely to consider aspects such as company size, costs to undo the infringement, and the financial situation of a company. Especially the Spanish sanctioning approach is very persuasive since inspectors will always warn companies before imposing a sanction and inspectors do not have to

The Dutch sanctioning style is the most insistent of the four countries because inspectors are less willing to warn first or to consider company-specific circumstances.

follow a uniform manual. Only German and Dutch companies actually had to pay fines for non-compliance with the safety data sheets directive. The fines were slightly higher in the Netherlands.

Figure 7.11: SDS sanctioning approach



7.4.3 Relationship with companies

Table 7.14: Relationship with companies (the points are allocated based on table 5.20 in chapter 5, section 5.6.4)

	NL	D	GB	E	maximum
Inspectors do not consider a good relationship to be necessary / feel dependent on companies.	3	1 (?)	1	1	5
Discussion on content is not important.	4	4	2	1	5
Relationship is not based on co-operation.	3	1	1	1	5
Inspectors do not often give advice.	3	1	1	1	5
Total score relationship:	13	7	5	4	20

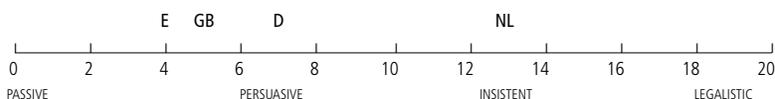
The variables related to the relationship with companies show that in three countries the enforcement style is considered to be persuasive or even passive, whereas in the Netherlands the style is considered to be insistent.

The main reason for the more insistent approach in the Netherlands is that inspectors feel themselves less dependent on companies than inspectors in the three other Member States do; Dutch inspectors are not of the

Especially in the Netherlands, inspectors take more distance from companies; discussions and advice are rare since inspectors are there to enforce legislation and not to help companies with their compliance.

impression that a good relationship with companies is necessary for correct enforcement. Besides, discussions on the content of the safety data sheets directive are less common in the Netherlands and inspectors do not often advise companies on the compliance with this piece of legislation. Dutch inspectors refer companies with questions related to compiling safety data sheets to consultants who make sheets. In the three other Member States – especially in Spain – inspectors feel more dependent on companies for receiving all information necessary for correct enforcement. Besides, inspectors are more willing to offer companies advice and the topic of safety data sheets can be discussed during inspections.

Figure 7.12: Relationship with companies



7.4.4 Concluding comparison of the safety data sheets enforcement styles

When combining the three scores on the enforcement style – intensity of the inspections, sanctioning approach and the relationship between inspectors and companies – the following overall score becomes available.

Table 7.15: Overall score of the SDS enforcement style

	NL	D	GB	E	maximum
Total score intensity of the inspections.	17	9	9	13	40
Total score sanctioning approach.	14	11	9	6	20
Total score relationship.	13	7	5	4	20
Overall score enforcement style.	44	27	23	23	80

Table 7.16: Interpretation of the overall score

Types of enforcement styles	
0-20	Passive: an extreme lenient enforcement style where the inspector does not dare or care to undertake action against regulated that do not comply with the legislation. Inspections are rare.
21-40	Persuasive: a rather lenient enforcement style with an emphasis on explaining the law and discussing possible solutions to undo infringements with the regulated. The aim is to persuade companies to comply with the law.
41-60	Insistent: a mixture between a lenient and a legalistic approach. Inspectors will first try to persuade companies, but are not afraid to imposed sanctions when companies do not respond to this. Inspections take place regularly.
61-80	Legalistic: a strict enforcement approach where inspectors do not give regulated second chances but punish immediately. Inspections are very frequent.

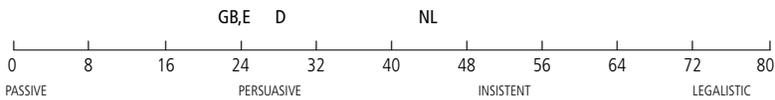
Germany, Great Britain and Spain show a persuasive, almost passive, enforcement style whereas the Netherlands shows an insistent enforcement style. In all three aspects – intensity of the inspections, sanctioning approach and the relationship with companies – the Dutch enforcement style is more insistent than the styles in the three other Member States are. There are more inspection projects, Dutch inspectors are stricter in sanctioning SDS-related infringements and, finally, they are

The Dutch enforcement style when enforcing the SDS directive can be characterised as 'insistent' because of intensive inspections, a strict sanctioning approach and a independent relationship with companies.

less likely to advise companies or discuss the topic of safety data sheets with them. The country with the most insistent enforcement style also shows the least co-operative relationship between inspectors and companies. The other three Member States combine a more persuasive enforcement style with a good and co-operative relationship between inspectors and companies.

Spain, in two of the four Autonomous Communities, also shows an active inspection approach, but the overall enforcement style is still considered to be persuasive because of the lenient attitude towards sanctioning and especially because of the relationship with companies. Opposed to Dutch inspectors, Spanish inspectors often advise companies on their safety data sheets compliance and discuss this legislation with them. The relationship in Spain is more co-operative and inspectors feel more dependent on companies to receive the right information in order to be able to enforce this topic. Despite the intensity of the inspections in Madrid and Andalucia, the attitude of the inspectors towards companies makes the overall Spanish enforcement approach persuasive. The German and British enforcement styles are especially characterised as persuasive because of the low intensity of the inspections.

Figure 7.13: Comparison of the SDS enforcement styles



7.5 The safety data sheets compliance costs

7.5.1 Costs imposed by the government

a) Costs for inspections

Table 7.17: Costs for SDS inspections (the points are allocated based on table 5.18 in chapter 5, section 5.6.2)

	NL	D	GB	E	maximum
Number of man-days per inspection.	1	1	1	1	2
Frequency of the inspections.	2	1	1	2	3
Charging for inspections.	1	1	1	1	10
Total score costs for inspections.	4	3	3	4	15

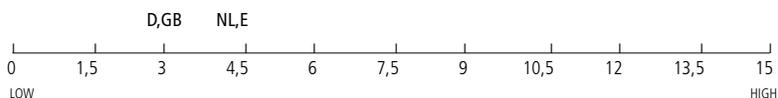
The costs for inspections related to the safety data sheets directive, such as the touring of inspectors or charges for inspections, are low for the companies that have to comply with this legislation. In none of the countries, the inspections take up much of the companies' time. In all cases, the inspections will normally only last half a day and are executed by only one inspector. Large percentages of the questionnaire respondents have never been inspected for the topic of safety data sheets. In Great Britain 65% was never inspected for this topic, in

Germany 58% and in the Netherlands 45%.¹⁴ The costs for future inspections are not expected to be high either. In Germany and Great Britain the frequency of inspections is dependent on the interest of the individual inspectors in safety data sheets. There are no special projects at this moment and therefore companies can only expect to be visited for safety data sheets when individual inspectors find this topic important enough to check.

Costs for inspections related to the SDS directive are very low. Inspections are rare and if they take place they only last half a day. Only in the Netherlands and in Madrid and Andalucia companies have slightly more chance of being visited for this topic.

Dutch and Spanish companies – especially the ones in Madrid and Andalucia – have slightly more chance of being inspected for their sheets since here more regular inspections take place. Even in these two countries more ‘regular’ inspections means a chance of being visited of only once every two to five years. In none of the countries inspectors ask money for their safety data sheets inspections.

Figure 7.14: Costs for SDS inspections



b) Costs for sanctions

Table 7.18: Costs for SDS sanctions (the points are allocated based on table 5.19 in chapter 5, section 5.6.3)

	NL	D	GB	E	maximum
Frequency with which inspectors detect violations.	1	1	1	1	2
Frequency with which inspectors impose fines.	2	2	1	1	3
Total score costs for sanctions.	3	3	2	2	5

The descriptions of the safety data sheets enforcement practices in chapter five already showed that companies in general do not have to be afraid of high costs for sanctions related to the safety data sheets directive. Since the SDS directive is not intensively enforced, companies do not have a large chance of being visited and thus do not soon have a chance of receiving a sanction related to their SDS compliance. Only in the Netherlands and Germany some infringements were found that were sanctioned. In both countries two companies received a fine: the two German companies had to pay 150 and 1.025 euro and the two Dutch companies 450 and 2.300 euro.

Figure 7.15: Costs for SDS sanctions



7.5.2 *Costs for the workload of companies*

Chapter six on the SDS compliance practices already showed that the company size of the questionnaire respondents differs and therefore nothing can be said about compliance costs per country.¹⁵ When trying to establish companies' compliance costs related to their own work on making, revising and distributing safety data sheets it has to be taken into consideration that these costs are related to the number of sheets a company has to produce. Two factors lead to compliance costs for companies: their total number of hours spend per week on the topic of safety data sheets and the costs companies had for making or buying their software system necessary to make the sheets.

Table 7.19: Costs for the SDS workload¹⁶

	< 100 sheets	100-500 sheets	500-1000 sheets	> 1000 sheets
Hours per week to make the sheets.	23 hours	22 hours	40 hours	116 hours
Costs for the software (once only).	€9.000	€40.000	€50.000	€300.000

As could be expected, companies that produce more sheets have more compliance cost than companies that produce fewer sheets since they usually have more employees to make the sheets and spend more time per week on complying with this legislation. Whereas companies that make more than 1000 sheets spend more than 100 hours per week on this topic, companies that make less than 100 sheets only spend about 20 hours per week on complying with the SDS directive. Companies that produce many sheets also spent more money on their software system to make the sheets. The companies that produce less than 100 sheets on average only paid 9.000 euro for their software system, whereas companies that produce more than 1000 sheets on average spent 300.000 euro. As table 7.19 shows, the costs relate to the numbers of sheets that a company has to make. Especially the companies that produce more than 1000 sheets can have considerable compliance costs.

7.5.3 *Concluding comparison of the safety data sheets compliance costs*

It is not possible to combine the costs imposed by the government and the internal costs companies have for their workload divided per country. Therefore it is not possible to say something about the overall compliance costs for companies per country. It is possible to compare the costs imposed by the government.

Table 7.20: Overall score costs imposed by the government

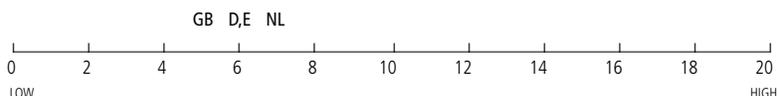
	NL	D	GB	E	maximum
Total score costs for inspections.	4	3	3	4	15
Total score costs for sanctions.	3	3	2	2	5
Overall score costs imposed by the government.	7	6	5	6	20

As can be seen, the costs imposed by the government are extremely low. These low costs can best be explained by the absence of a thorough enforcement practice in all four Member States. Companies do not have a high chance of being visited for their safety data sheets compliance and therefore have low costs related to inspections and possible sanctions. The costs they have for their internal workload are related to the number of sheets they produce.

Companies that make thousands of sheets have rather high compliance costs since they have to set up a complicated software system in order to be able to make the sheets and they spend quite some money on personnel to make these sheets. Companies that only have to make a few sheets, however, do not have high costs in order to comply with this piece of European legislation.

SDS compliance costs imposed by the government are extremely low. The costs for the internal workload are only high when companies have to produce many sheets.

Figure 7.16: Overall score costs imposed by the government



7.6 Seveso II and safety data sheets compared

7.6.1 Comparing enforcement practices and enforcement styles

The enforcement styles in this chapter are presented as national enforcement styles. The styles presented in this chapter are based on similarities and common practices in the enforcement practices within the four Member States. It has to be kept in mind, however, that there are not only differences *between* countries, but differences *within* Member States can also be found. As chapters three and five already showed, there are many differences to be found in the enforcement practices between regions, Länder or Autonomous Communities within the four countries. Generally speaking, there are more differences within countries in case of the Seveso II directive compared to the safety data sheets directive. The enforcement practices related to the Seveso II directive show more variations within countries than the SDS enforcement practices do.

To present a summarising conclusion, the Seveso II enforcement style is the most uniform within Great Britain. Differences between the various British regions are small. The other three countries do show more obvious variations between different parts of the country. Within the Netherlands there especially are some small differences between the Rotterdam harbour

The Seveso II enforcement style is the most uniform in Great Britain and the most differentiated in Germany.

area and other parts of the country. Generally speaking, the Rotterdam harbour area seems to show a slightly more intensive enforcement practice and a more legalistic enforcement style compared to other parts of the Netherlands. Within Spain the exceptional case seems to be Catalonia. Catalonia led the way in establishing many of the Seveso II enforcement structures and other Autonomous Communities seem to follow their example often. Catalonia seems to have adopted a slightly more insistent enforcement style compared to the other two Autonomous Communities. Differences within Autonomous Communities are only minor. Germany shows the most differentiated enforcement practice. Not only are there many differences between the various Länder – North-Rhine Westphalia, Baden-Württemberg and Bavaria all three have their own enforcement structure – also within Länder many differences

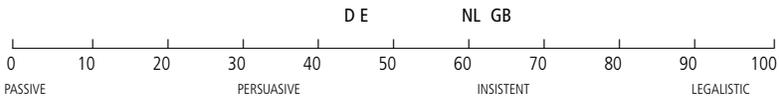
can be observed. Within Baden-Württemberg, for example, different regional governments show different procedures on how to assess a safety report. Since Germany was rather late with setting up its enforcement structure, nothing can be said at this moment about what Länder or what regions within Länder show a more legalistic enforcement style compared to others.

In the case of the safety data sheets directive, less differences within Member States can be observed. Especially the Netherlands shows a uniform enforcement practice. The three German Länder also show a rather comparable enforcement practice since they all – up until now – carried out only one special project. Great Britain shows some differences between the northern region – where a special enforcement project was executed – and the rest of the country that did not participate in this project. The enforcement style in the northern region thus might be considered slightly more insistent. Most variations can be found within Spain. The four Autonomous Communities studied show some differences; Madrid and Andalucia carry out projects in which the topic of safety data sheets takes place whereas Catalonia and Valencia do not have special projects and therefore show a more passive enforcement style.

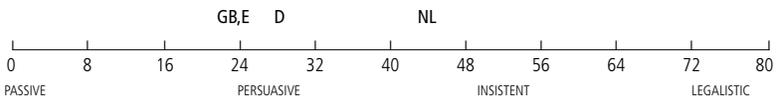
SDS enforcement practices and enforcement styles are rather uniform within Member States. Only Great Britain and Spain show some differences between regions.

Figure 7.17: Comparison of the enforcement styles between the two directives

Seveso II



SDS



The obvious overall conclusion is that the Seveso II enforcement style in general is more insistent than the safety data sheets enforcement style is. First of all, the general observation – related to the intensity of the inspections – can be made that for the Seveso II directive there is intensive enforcement in all four Member States, whereas for safety data sheets the enforcement is more dependent on the interest of individual inspectors. Only in the Netherlands and Madrid and Andalucia in Spain there are some small enforcement projects available. Seveso II inspections generally last longer, take place more frequently with more inspectors and are more often focused on the topic of the directive entirely. The workload for inspectors to inspect the Seveso II directive is higher than it is to check SDS compliance. Seveso II inspectors have much work

The intensity of the inspections is much higher for the Seveso II directive than it is for the SDS directive: there are more frequent and more thorough Seveso II inspections.

inspecting the companies on a yearly basis and the assessment of the safety report can take a considerable amount of time. Compared to this, the checking of safety data sheets is less intensive.

Secondly, the sanctioning style does not show many differences between the two directives. In both cases, the sanctioning practice in the four Member States can be characterised as ‘persuasive’. However, there seem to be slightly more examples available of inspectors sanctioning for SDS-related infringements than for Seveso-related infringements. Of the 56 questionnaire respondents for safety data sheets, 9% received a sanction whereas only 2% of the 45 Seveso II respondents received a sanction. Only the sanctioning style related to the safety data sheets directive in the Netherlands can be considered somewhat more insistent. Dutch environmental inspectors show an insistent approach when it comes to sanctioning non-compliance with the SDS directive.

Sanctions are rare for both directives; to impose sanctions is slightly more common for SDS than for Seveso II.

Finally, the relationship between inspectors and companies is good and co-operative in all Member States. No differences between the two directives can be found in this respect. In general, both inspectors and companies consider their relationship to be good but formal and based on co-operation. Discussions are considered to be important and inspectors generally give advice. Only in the Netherlands, the relationship between both parties is evaluated less positive when it comes to safety data sheets enforcement. Dutch inspectors are less willing to offer advice or discuss the topic of safety data sheets with companies. They also feel less dependent on companies.

Generally speaking, inspectors have a good but dependent relationship with companies. Only in the Netherlands, related to the SDS directive, the relationship is less dependent and inspectors show a more insistent approach towards companies.

7.6.2 Comparing compliance practices and compliance costs

The compliance practices related to both directives show that it is common practice for companies to outsource a part of their requirements. For the compliance with the Seveso II directive companies often outsource specific risk analyses and for safety data sheets companies often outsource the required software programme. In both cases, Great Britain can somewhat be considered to be the odd man out. For both directives, British companies more often comply with the requirements themselves – instead of outsourcing them – compared to companies in the three other Member States. When complying with the two specific directives, especially SDS companies seem to use the EU directive as guidance on how to make the sheets. Seveso II companies more often use national guidelines.

Related to the workload companies have for complying with the two directives the following conclusion can be drawn: the Seveso II workload seems to differ more between *countries* whereas the SDS workload differs more between *companies*. Of course there are also differences between companies related to the Seveso II compliance, but the differences between companies are smaller than the differences between countries are. The Seveso II workload is higher in the Netherlands than in the other countries. For safety data sheets such a conclusion cannot be drawn. Here, the workload seems to be related solely to the number of sheets

companies have to make. The companies that make the most sheets can be found in Germany since the German questionnaire respondents are the largest. For both directives the observation can be made that companies generally are of the impression that they comply closely with the legislation whereas inspectors are less positive about companies' compliance rate.

In the Seveso II compliance practice there are more differences between countries than between companies, whereas in the SDS compliance practice there are more differences between companies than between countries.

The costs imposed by the government can be compared between the two directives. This shows that the Seveso II compliance costs imposed by the government are higher. Seveso II companies have more costs for inspections since the number of man-days per inspection and the frequency of inspections are higher than they are for safety data sheets. Besides, Seveso II companies in most countries are charged for the inspections and the assessment of the safety report. In neither of the cases companies have to be afraid of high costs related to sanctions. The costs for the internal workload are hard to compare between both directives. Companies that have to compile thousands of sheets also have considerable costs, but it seems that the Seveso II workload and total compliance costs on average are higher compared to safety data sheets.

The costs imposed by the government are much higher for Seveso II than they are for SDS; costs for internal workload are hard to compare but seem higher for Seveso II companies.

Notes

- 1 The enforcement styles and compliance costs are presented per Member State. For Germany and Spain averages or common practices of the Länder and Autonomous Communities are presented. In case of large differences in enforcement styles or compliance costs between regions, Länder or Autonomous Communities these are mentioned.
- 2 'Charging for COMAH activities – A guide.' Health and Safety Executive, April 2000.
- 3 Five British questionnaire respondents (in the category of 100-500 employees) estimated their annual costs for inspections. These numbers vary from 6.000 to 80.000 euro. On average, these five companies expect to pay 26.000 euro per year for inspections. This sum is larger than the sum estimated by the British government in the charging manual; either the competent authority underestimated the total costs for inspections or the companies exaggerate their costs.
- 4 These four companies estimated their annual costs for Seveso II inspections at 180, 600, 1.800 and 3.000 euro (average of 1.400 euro per year). These costs are very diverse and the differences are not related to variations in company size or Autonomous Community.
- 5 Calculated by multiplying the total number of hours inspectors spent on the assessment (according to the questionnaire) with the rate of British inspectors of 165 euro per hour.
- 6 In view of competition the assessment agencies were not willing to mention their charging rate.
- 7 Five respondents (also outside Catalonia) mentioned their costs for the assessment of the safety report; answers varied from 300 to 15.000 euro. These costs are related to company size. A company with more than 1000 employees paid the sum of 15.000 euro. Smaller companies (100-500 employees) on average spent 3.000 euro. On average, these five companies spent 6.500 euro on the assessment.
- 8 Six British respondents mentioned their assessment costs; these numbers vary between 15.000 and 150.000 euro. The numbers are related to the company size. Two companies with less than 100 employees both spent 15.000 euro on their assessment whereas four companies with 100-500 employees on average spent 80.000 euro on their assessment. On average, in these six companies the assessment cost 60.000 euro.
- 9 Since there are no German company respondents there is no information on the workload of German companies for the making of the safety report. For more information, see Annex I.
- 10 If one would calculate the sum of money that companies spent on the writing of their safety reports by taking the sum of 165 euro that British inspectors charge as an example and using an average of 140 hours per month, the following amounts would be available:
 - NL: 11 months with 4,5 employees = 6.930 hours x 165 euro = 1.143.450 euro.
 - GB: 9 months with 3 employees = 3.780 hours x 165 euro = 623.700 euro.
 - E: 3 months with 2,5 employees = 1.050 hours x 165 euro = 173.250 euro.
- 11 Generally speaking, smaller companies spent more money on outsourcing than larger companies did. The smaller companies (< 100 employees) on average spent 60.000 euro on outsourcing whereas larger companies on average spent 35.000 / 40.000 euro on this aspect.
- 12 In Spain, opposed to the Netherlands, larger companies spent more money on outsourcing. One company with more than 1000 employees spent the high sum of

250.000 euro, whereas smaller companies of 100-500 employees only spent 16.000 euro on average on outsourcing.

- 13 Total score costs imposed by the government = costs for inspections + costs for sanctions + costs for the assessment.
- 14 For Spain no company results were available, but the inspector respondents indicated that this situation applies to their country as well.
- 15 German respondents on average were larger and produced more sheets than companies in other countries did.
- 16 The information in this table is based on the answers of questionnaire respondents. It represents the averages of 15 companies that produce less than 100 sheets, 16 companies that produce 100-500 sheets, 6 companies that produce 500-1000 sheets and 16 companies that produce more than 1000 sheets.

Part III

Understanding Differences in Enforcement and Compliance

Part II described the enforcement and compliance practices related to the Seveso II and safety data sheets directives. Chapter 7 concluded that there are differences between the four Member States in how inspectors enforce and companies comply. The Netherlands and Great Britain show an insistent enforcement style when enforcing the Seveso II directive whereas Germany and Spain show a persuasive enforcement style. Related to the safety data sheets directive, Dutch inspectors adopt an insistent enforcement style opposed to the more persuasive (almost passive) enforcement style of German, British and Spanish inspectors. Compliance costs also differ. The Seveso II compliance costs differ between Member States – Dutch companies have the highest costs – whereas the SDS compliance costs differ more between companies. Differences in styles and costs between both directives can also be found. Overall, the Seveso II directive leads to more insistent enforcement styles and higher compliance costs.

How can these differences be explained? Part III deals with the third and last research question: ‘How can differences in enforcement and compliance practices be explained?’ The explanatory variables are divided into four distinct categories: saliency (chapter 8), legal design (chapter 9), organisational structure (chapter 10) and street-level actors (chapter 11). Chapter 12 concludes Part III and summarises all explanatory variables.

Chapter 8

Saliency

8.1 Introduction

'Saliency' refers to the importance or weight attached to a topic on both European and national level. To what extent is a topic placed on the political agenda? A topic that is considered to be salient is considered to be of major importance. A directive that regulates a topic that is considered to be salient is likely to receive more attention in the enforcement phase compared to a directive that is not considered to be salient. The saliency of a directive might also influence the compliance practice. Are companies influenced by the importance attached to a subject? Do regulated pay more effort to conform to the requirements when a directive is considered to be salient?

The saliency of the Seveso II and safety data sheets directives in this research is measured by three elements¹:

- 1) The seriousness of the risks to be prevented.
- 2) (Media) attention for the topic of the directive on European and national level.
- 3) The impact of disasters and scandals.

8.2 The Seveso II directive

The first Seveso directive from 1982 was set up because the topic of major accidents caused by dangerous chemicals was high on the political agenda. Accidents such as the ones in Flixborough in 1974 and in Seveso in 1976 resulted in the formulation of a directive regulating this subject. One can say that the saliency of the topic led to coming into being of the directive. The name of the directive – after one of the cities in which a major accident happened – already indicates the saliency of the topic. The Seveso II directive regulates the control of major-accident hazards involving dangerous substances. A 'major accident' according to the directive (Article 3 (5)) is *'an occurrence such as a major emission, fire, or explosion resulting from uncontrolled developments in the course of the operation of any establishment covered by this Directive, and leading to serious danger to human health and/or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances'*. The use of the word 'major' already indicates the importance attached to it. The directive regulates the aim to prevent such major accidents and the aim to limit their consequences in case they do happen. Companies that house many dangerous substances have to set up a whole safety system to show the authorities that they handle these substances well. They have to ensure that they limit the possibility of major accidents to happen. The directive thus deals with potentially high risks to both people and the environment. The seriousness of the risks to be prevented is high and thus the topic of the Seveso II directive is considered to be highly salient.

This saliency can also be seen by the amount of attention on European level for this directive. Several developments can be noticed that stress the importance attached to this subject. The first is the 'Committee of Competent Authorities' set up by Article 22 of the Seveso II directive. This Committee of Competent Authorities, referred to as 'CCA', meets every six months.

Each Member State is represented in the CCA that advises the European Commission on the topic of major accident prevention policy. The CCA has a chance to deliver its opinion on draft proposals by the Commission in this policy area. Usually representatives from the national ministries that transposed the Seveso II directive take part in the CCA meetings. For example, for Spain, two representatives from the 'Ministry of Interior Affairs' are the Spanish members of the CCA and for the United Kingdom it are two representatives from the 'Health and Safety Executive' and one from the 'Department of the Environment'. Therefore, the CCA meetings form a good opportunity to exchange information on the transposition and enforcement of the Seveso II directive. The meetings provide a good network in which the responsible people in the different Member States get to know each other. This makes it easier for them to contact each other for help and information exchange, which often happens in practice. Representatives from Catalonia, for example, often contact Dutch and British colleagues for help on how to implement specific parts of the Seveso II directive.

The topic regulated by the Seveso II directive is considered to be highly important.

Whereas the CCA binds representatives from national ministries, there also is an opportunity for the street-level bureaucrats, the inspectors, to exchange information. The European Commission expresses the importance it attaches to this topic by arranging special three-day programmes in which inspectors who enforce the Seveso II directive can meet: 'Mutual Joint Visit Programme'. The primary intent of this programme is to encourage and facilitate the exchange of information on best practices for conducting inspections. All Member States are asked to host one 'Mutual Joint Visit' (MJV). One country hosts the MJV and inspectors from other Member States are invited. Usually, the MJV's are rather small-scaled (about 25 inspectors) and informal. In 1999 the Netherlands was the first Member State to host a 'Mutual Joint Visit'. In 2000, Ireland, Germany, Finland and the United Kingdom organised one. The general structure of the programme is divided into two main parts. First, there is a presentation of the inspection system of the host country. This is an opportunity for a Member State to explain its own system of inspections. Other Member States can comment and use this opportunity to learn from their experiences. In this session, inspectors from different countries exchange their working practices by use of the example of the system of the host country. Second, the MJV is rather practical and the inspectors visit a Seveso establishment in the host country to see how an inspection is carried out.

The next example that shows the importance the European Commission attaches to this topic is the setting up of the 'Major Accident Hazards Bureau'. The bureau is a special unit within the 'Joint Research Centre', the European Union's scientific and technical research laboratory. The bureau is located in Ispra in Italy. It has an extensive website on which information can be obtained on all sorts of Seveso-related topics.² The bureau has the special task of supporting the Commission and the Member States in the implementation of the Seveso II directive. It fulfils the obligation of the Commission as stated in Article 19 of the directive according to which the Commission is supposed to provide an information system on major accidents. The bureau arranged this obligation by setting up the 'Major Accident Reporting System'. They also set up a documentation centre on industrial risks. On the Internet many guidance documents specifying the obligations in the directive are made available. These guidelines are not obligatory, but merely a tool for Member States to help them transpose and enforce the directive. Guidance material is available on topics such as safety management systems, safety reports, land-use planning, inspections and information to the public.

The relative large number of conferences on the topic of Seveso II also shows the saliency of the directive. A few examples are ‘Seveso 2000. Risk management in the European Union of 2000: The challenge of implementing Council directive Seveso II’ in Athens in 1999; ‘The control of major accident hazards: implementing Seveso II’ in London in 2000 and in 2001 the OECD workshop in Madrid on ‘Audits and inspections related to chemical accident prevention.’ Besides the CCA and MJV meetings, these conferences form good opportunities for all ‘Seveso-regulators’ as well as ‘Seveso-regulated’ to meet and exchange information and experiences related to the enforcement and compliance practices.

Besides the seriousness of the risks to be prevented and the attention for the topic of a directive, disasters contribute to the saliency of a directive. Accidents within companies handling dangerous chemicals heavily influenced the enforcement practices related to the Seveso II directive within Europe: it led to stricter enforcement and a change in legislation.

World-wide accidents related to dangerous chemicals take place on a regular basis. Not all of them are very serious and are considered to be ‘major accidents’. Some of them are, and two recent accidents within the European Union heavily influence the Seveso II enforcement and compliance practices. The first is the explosion of a fireworks storage facility in Enschede, the Netherlands, on 13 May 2000 and the second the blast in a petrochemical and fertiliser factory in Toulouse, France, on 21 September 2001. The explosion in Enschede resulted in the death of 23 people, the injury of hundreds of people and the destruction of about 400 houses. The blast in Toulouse killed 29 people, injured hundreds of them and made about 400 families and 1.500 students homeless. Both accidents led to heated discussions, on both national and European level, on the enforcement of major accident legislation.

The first and most obvious impact of accidents such as these is that because of them – and due to new research conclusions – the European Commission decided to launch a proposal for a new amendment of the Seveso directive in December 2001.³ Because of a cyanide spill into the Tisza River in Baia Mare, Romania, in January 2000 – which caused considerable environmental damage – the Commission became aware of the need to cover risks arising from storage and processing activities in the mining industry within the directive. Mining activities are excluded in Seveso II, but this accident in Romania proved the need to pertain the scope of the directive to mining. As well, the explosion of the fireworks storage facility in Enschede demonstrated the need for an adjustment. This storage facility was not considered to be a ‘Seveso establishment’ according to the thresholds in the Seveso II directive. This particular accident showed the need to better define and lower the thresholds for these explosive and pyrotechnic substances in the Seveso legislation. A third reason for the amendment is the result of studies carried out by the Commission. These results showed the need to introduce amendments related to carcinogens and substances dangerous to the environment.

Just at the moment when the Commission transmitted the proposal to the European Parliament and the Council of Ministers, the Toulouse accident asked for further revisions. This accident, together with parliamentary comments, led to the adopted proposal of September 2002.⁴ This amended proposal takes into account the explosion in Toulouse and highlights the importance of ensuring adequate safety distances between industrial establishments and transport routes. In October 2002 the Environment Council unanimously agreed to adopt this revision of the Seveso II directive. Commissioner Margot Wallström stated to be

Major accidents in Europe led to a revision of the Seveso II directive.

pleased with this decision by the Council. She emphasised the impact accidents can have on the changing of European legislation; she stated that the revision '(...) *will therefore help to prevent major accidents involving dangerous substances like the ones at Baia Mare, Enschede and Toulouse from happening again.*'⁵

Not only European legislation is changing because of the impact of accidents; national legislation can also be influenced. The explosion of the fireworks storage facility in the Netherlands led to the adoption of new Dutch legislation. The new 'Fireworks Decree' was adopted in January 2002 and was set up to prevent sort-like accidents related to fireworks in the future.⁶ The accident in Enschede not only led to a change in legislation, it also influenced the Dutch enforcement practice. The accident, first of all, led to an 'explosion' of news items on the enforcement of legislation and especially of legislation related to dangerous chemicals. In the months after the accident the enforcement of legislation proved to be the most popular news item. The articles showed a critical stance towards the Dutch 'gedoog-culture' in which certain activities are sustained while the legislation does not allow for it. Newspapers critically analysed the Dutch enforcement practice and came to the conclusion that in some cases the enforcement should be extended and improved. Inspectorates, after the accident, claimed to change their enforcement style. New catchwords are 'simple', 'uniform' and 'strict'. The popular Dutch concept of 'gedogen' was replaced by the call for less, more clear and easy to enforce legislation.⁷ Another problem mentioned in the Netherlands was that often multiple agencies are responsible for the enforcement of legislation within one single company. In this respect nobody really feels responsible for the enforcement or, so to say, nobody considers himself to be 'the owner of the problem'.⁸ After the explosion of the fireworks storage facility, the Dutch government established a commission, the 'Commission Oosting', to analyse the problems. This commission concluded in its report, amongst others, that inspectors should act more as enforcers and that the 'gedoog-culture' of negotiations with the regulated should be abandoned immediately.⁹

It is likely that the Enschede accident and the report of the Commission Oosting influenced the Dutch mentality. The questionnaire was handed out after this accident and perhaps inspectors and companies completed this questionnaire differently than they would have done if there would not have been an accident. It might be that the insistent enforcement style that is found in the Netherlands is stimulated by this accident. Perhaps inspectors gave more 'socially desirable' answers by claiming to be legalistic. Since the accident inspectors *want* to be more legalistic. This change in mentality can be noticed amongst the interviewees. One inspector who was interviewed before the accident clearly expressed the 'gedoog-culture' in the Netherlands: *'Of course we have to be strict, but in some cases it is much more efficient for us and for the companies to sustain situations that, according to the law, should be changed.'* None of the inspectors who were interviewed after the accident agreed with this. They all stated that this used to be the situation but each inspector individually claimed to now have changed his or her own enforcement style. The company respondents notice this change in attitude as well, although they interpret this somewhat more negatively. Some state that because of Enschede, some aspects are now looked at with too much detail; inspectors now want every little detail on paper. As one company stated: *'Enschede will definitely make the enforcement stricter. We have already noticed the first example. At the moment we have a*

The Enschede accident influenced the Dutch 'gedoog-culture'; inspectors now claim to be stricter

situation in which the inspectors allow us ('gedogen') to overstep the sustained norms related to the group-risk in our 'Quantitative Risk Assessment' because of the economical interest. Last week, the inspectors already indicated that we have to discuss this situation soon.'

Another problem that the interviewees mentioned which is caused by 'Enschede' is that inspectors have to agree to the safety report and have to give an 'acceptability statement' on the risks. After the explosion there was a discussion within the Netherlands whether the inspectors should be held responsible for the accident because of bad enforcement. Therefore, since the accident, the Seveso II inspectors are worried that – because of this acceptability statement – they might be liable whenever a Seveso II establishment causes an accident. Inspectors do not want to risk this and thus, they claim, they are going to protect themselves by being stricter and demanding everything to be written down on paper. In this sense, the Enschede accident led to 'moral panic' and created a climate in which inspectors adopt a more legalistic attitude than otherwise would have been the case. (Hutter & Manning, 1990: 108-109)

Not only in the Netherlands this impact of an accident on the enforcement style is noticeable. Also in the three other Member States inspectors and companies mentioned the impact of both Enschede and Toulouse. Here as well, inspectors claim to be stricter in enforcing the Seveso II directive than they intended to be before these accidents. Companies also mention a more legalistic approach by the enforcement agencies. In Great Britain a few train accidents led to a heated discussion on governmental enforcement, which also impacted upon the attitude of inspectors.

Besides the accidents within the chemical industry itself, the attacks in New York on the 11th of September 2001 also had their impact upon the Seveso II directive, especially upon the compliance practice by companies. According to the directive – Article 13, information on safety measures – upper tier establishments have to provide the public with information on their safety measures. Companies therefore have to publish a public version of their safety report. In the United Kingdom there already were some companies with a public version of their safety report on the Internet. Since the attacks in New York, these versions were withdrawn. Companies are afraid that terrorists might abuse this kind of information on dangerous chemicals for attacks. In all Member States, companies are now afraid to publish their public versions of their safety reports. The Commission and the Member States are going to discuss how to deal with this issue in the future. For the time being, companies are hesitant with publishing this information.

Generally speaking, major accidents and the media attention related to them resulted in a more legalistic enforcement approach in all four Member States than would have been the case without them. Since the accidents took place only shortly before or at the same time when the respondents completed the questionnaire, no precise information is available on whether the enforcement practices actually changed to a more legalistic approach. In this respect we have to rely on inspectors and companies who claim that the enforcement style has, and will, become more legalistic. The accidents also resulted in a change in legislation. Public attention often leads to a reaction from the government, in this case the European Commission. The Seveso II directive has become slightly more detailed and extensive than it was before.

Accidents such as Enschede and Toulouse resulted in a more legalistic enforcement style in all four Member States and a sharpening of the European Seveso II directive.

8.3 The safety data sheets directive

The safety data sheets directive regulates the supplying of information in order to be able to work safely with dangerous products. It was an attempt to harmonise the different systems of sheets already present. Since it concerns an information system related to individual products, the risks the directive tries to prevent are not considered to be high. There has been some attention for the enforcement of the SDS directive on European level. From September 1996 to November 1997 all Member States (except Luxembourg) participated in a project to enforce the then latest amendment of the substances directive (92/32/EEC).¹⁰ The purpose of this directive is to approximate all laws, regulations and administrative provisions of the Member States on the notification of dangerous substances, the assessment of the risks of notified substances and the classification, packaging and labelling of these substances. The Netherlands co-ordinated this project and all participating countries promised to carry out at least five inspections. The project was called 'SENSE' ('Solid Enforcement of Substances in Europe') and it focused on checking the compliance of chemical companies with their obligations to notify new substances, classify and label chemical substances and produce safety data sheets.¹¹

In total, 100 companies were visited in the participating countries and 1.905 substances were checked. For 1.252 of these 1.905 substances (66%) a safety data sheets was available. Of the sheets present, 80% (1.004 sheets) were correct. The 20% that were incorrect did not include all necessary information or used the wrong language. After this project, the Commission did not – up until 2002 – pay further attention to the topic of safety data sheets. There have been no European conferences or other international meetings on the topic of this directive.

Only in the Netherlands the topic of safety data sheets led to some, although minor, media attention. This media attention is closely related to the enforcement projects carried out by the 'Inspectorate for the Environment'. After the first inspection project of the inspectorate in 1997, the Dutch chemical industry showed to be unhappy with the – according to them – legalistic enforcement approach. The description of the relationship between companies and inspectors in chapter five (section 5.2.4) on the Dutch SDS enforcement practice already showed that the chemical industry did not appreciate the formal attitude of the inspectorate during the inspections and in the sanctioning process. Industry criticised the formal tone of letters mentioning minor infringements that were totally blown out of proportion. Within its own magazine, the Dutch chemical industry wrote a critical article on the enforcement attitude of the inspectorate for the environment.¹² The chemical industry, in this article, states that Dutch companies take this subject of safety data sheets seriously and that they work hard to compile good sheets. Problematic, however, is the inspectorate's rigid interpretation of the legal demands within the legislation. Industry complains that the interpretation of the inspectorate leads to an unnecessary administrative burden since it can lead to the inclusion of 'non-sensical and inadequate information' within the sheets. They feel that a sheet is a means and not an end in itself. The article concludes with the remark that companies rather do not receive more threatening letters and it points the inspectorate to the fact that – according to the Dutch saying – treacle catches more flies than vinegar. With this they mean to say that a more co-operative attitude of the inspectors will lead to better compliance than the legalistic enforcement approach will.

The third project of the environmental inspectorate between November 1999 and April 2000 – in which 16 chemical manufacturers and wholesalers were inspected – led to some

critical remarks within a Dutch newspaper.¹³ The article stated that a large percentage of the inspected companies did not comply with the enforced legislation related to chemical substances. It concluded that the enforcement of this type of legislation generally is still insufficient. The main reason for the attention within a newspaper for bad results of an inspection project was the accident within the fireworks storage facility in Enschede in May 2000. After this accident there has been considerable attention within the Dutch media for all aspects related to the enforcement of legislation, especially legislation concerning dangerous chemicals.

These minor examples of media attention do not provide an explanation for differences between the Netherlands and the three other Member States in enforcement or compliance practices. The second example of a newspaper mentioning bad inspection results was due to a major accident within the area of ‘dangerous chemicals’ in general. Because of this accident, all news service related to this topic is considered to be important. This small article did not influence the enforcement or compliance practice related to safety data sheets in the Netherlands as such. Because the inspection results related to safety data sheets inspections were rather bad before the Enschede accident as well, the project leader before the accident already decided to pay attention to this topic within projects in the coming years. The Enschede accident – or newspaper articles afterwards – can thus not explain the relatively higher level of attention for SDS enforcement in the Netherlands compared to the three other countries.

The small amount of media attention for safety data sheets in the Netherlands cannot be seen as an explanation for the more insistent Dutch enforcement style or the worse relationship between inspectors and companies. The media attention is more a result of the insistent enforcement style.

The first example of industry writing its comment on the enforcement practice within a magazine does also not form an explanation. This criticism by industry is related to the – compared to the three other countries – rather bad relationship between inspectors and companies in the Netherlands. One can say there is an interplay of factors. Because of an insistent enforcement style by the inspectors companies complain and express their dissension, which, in its turn, negatively influences the relationship between companies and inspectors. However, it might also be possible that – because of the complaints by companies and their negative relationship with inspectors – inspectors turn to a more insistent enforcement style. It is hard to state which factor influenced which. Obvious is, though, that the negative attention by companies in this magazine is caused by the rather unco-operative relationship and the insistent enforcement style. The media attention should be seen as a result of the insistent enforcement style and unco-operative relationship rather than its explanation.

8.4 Conclusion: the impact of ‘saliency’

Both the Seveso II and safety data sheets directives regulate the topic of working safely with ‘dangerous substances’. They both deal with this in a different way, however. Whereas the SDS directive only looks at these dangerous substances on an individual level, the Seveso II directive takes the presence of all dangerous substances at one site into consideration. This highly influences the saliency of both directives. Since the SDS directive only regulates the availability of a sheet that explains safe handling procedures per product, the dangers at stake

are not considered to be high. The directive as such is therefore not considered to be salient. The Seveso II directive, however, looks at all substances available at a site and takes their combined danger into consideration. The accidents that dangerous substances together might cause are considered to be of major importance. The risks that are regulated are high and thus the Seveso II directive is seen as a 'salient' directive. The Seveso II directive regulates a topic that prevents potentially higher risks than the SDS directive does. The coming into being of both directives already showed this difference in saliency. Whereas the Seveso directive was born because the topic was considered to be of high importance, the SDS directive was set up with the aim to harmonise the existing working practices.

The seriousness of the risks to be prevented is higher in the Seveso II directive.

Besides, the higher saliency of the Seveso II directive can be seen by the larger amount of attention for this topic on European level. For the SDS directive there has only been one joint enforcement project, whereas Seveso II attracted more attention in the form of a European committee, a joint inspection project, European conferences and a bureau that provides guidance material. This large amount of attention on European level stimulates the Member States to pay active attention to this topic as well. Also accidents such as the ones in Enschede and Toulouse influenced the importance attached to the topic of Seveso II. It caused a considerable stream of media attention for the enforcement of major accident legislation and it led to a revision of the EU directive. Safety data sheets hardly receive any media attention.

Overall, it can thus be stated that the Seveso II directive is considered to be a highly salient directive whereas the topic of safety data sheets hardly can be considered as salient. This difference in saliency is an important explanation for why the enforcement of Seveso II receives much more attention than the enforcement of safety data sheets does. It is rather logical that a directive that is considered to be important at the European and national level receives quite some attention in the form of enforcement.

The safety data sheets directive is not considered to be highly important and this explains the low amount of attention for its enforcement and the rather passive enforcement styles in three of the four Member States. It explains why in general – compared to the Seveso II enforcement practices – there are fewer inspectors appointed to enforce this topic, why these inspectors only spend a small percentage of their time on enforcing safety data sheets, why there is a lower frequency of inspections and why inspections take up less time. The directive is not considered to be salient, which results in the situation in which the inspectors do not care to enforce this topic extensively. The non-saliency only explains differences between the SDS enforcement styles in general compared to the stricter Seveso II enforcement styles. It does not explain why the directive is enforced somewhat more intensively in the Netherlands compared to the three other Member States. In the Netherlands there is slightly more media attention for this topic but this does not explain why the enforcement style is more persuasive; it is more a result of the persuasive enforcement style. Explanations for the more intensive Dutch enforcement thus have to be found elsewhere.

The non-saliency of the SDS directive explains the low inspection intensity and rather passive enforcement style of inspectors.

The saliency of the Seveso II directive – especially caused by accidents such as in Enschede and Toulouse – led to a change in enforcement style. The accidents resulted in a more insistent enforcement style related to the Seveso II directive in all four Member States. This

change in style is not yet measurable, but both governmental and industrial respondents claim it took place or is going to take place. In all four Member States the enforcement of the directive receives much attention in the form of a high inspection intensity with large teams of inspectors and a thorough assessment of the safety reports and inspection of the sites. To a large extent this strict approach is inspired by the high ranking of the topic on the political agenda in all countries. It does not explain why the Netherlands and Great Britain show a more persuasive approach compared to Germany and Spain.

Whereas the saliency of a directive does influence the enforcement practices, it does not seem to be a factor of influence for the regulated when complying with legislation. The compliance practices related to both Seveso II and safety data sheets show that in general the chemical industry takes its compliance with EU legislation regulating dangerous substances seriously. Both directives, whether they are considered to be salient or not, are complied with.¹⁴ Even though the SDS directive is not considered to be a topic of major importance, companies generally speaking – some more intensively than others do¹⁵ – do comply with the requirements.

The saliency of a directive does not seem to influence the compliance practice of companies.

Notes

- 1 For more information on the variables, see chapter 2, section 2.3.1.
- 2 <http://mahbsrv.jrc.it>
- 3 COM (2001) 624.
- 4 COM (2002) 540.
- 5 IP/02/1514, 18 October 2002.
- 6 ‘Besluit van 22 januari 2002, houdende nieuwe regels met betrekking tot consumenten- en professioneel vuurwerk’, Staatsblad 2002, 189.
- 7 ‘Rijksinspecties zijn gedoogcultuur beu’, De Volkskrant, 16 January 2001.
- 8 ‘Pleidooi voor herstel nachtwakersstaat’, De Volkskrant, 15 January 2001.
- 9 ‘De vuurwerkcramp. Eindrapport’, February 2001.
- 10 OJ L 154, 05/06/1992, p. 0001-0029.
- 11 ‘European inspection project “Solid Enforcement of Substances in Europe” (SENSE).’ Final Report 1998, Ministry of Housing, Spatial Planning, and Environment, The Netherlands.
- 12 ‘Azijn’, Nederlandse Chemische Industrie, jaargang 42, 12 April 2000, page 3.
- 13 ‘Chemie schendt regels gevaarlijke stoffen’, De Volkskrant, 23 April 2001.
- 14 However, in general companies are more positive about their own compliance rate than inspectors are about the compliance practice of companies.
- 15 Generally speaking, larger companies and manufacturers of dangerous products are considered to be better compliers than smaller companies and traders are.

Chapter 9

Legal design

9.1 Introduction

Within the category ‘legal design’ four different aspects can be of possible influence on the enforcement and / or compliance practices within Member States:

- 1) The nature of the directive.
- 2) The transposition of the directive into national legislation.
- 3) National enforcement and compliance instruments.
- 4) National sanctioning instruments.

The first aspect – the nature of the directive – is measured by four elements: (1) the fact whether it is a minimum or a maximum directive, (2) the number of policy areas touched upon in a directive, (3) its level of detail and (4) the clarity of its obligations.

The second aspect of transposition can contribute in many ways to an explanation of differences in enforcement and / or compliance. The new national legislation after the transposition provides the context in which enforcement and compliance take place. Three aspects related to the transposition can influence enforcement and compliance practices: (1) the legislation used for the transposition, (2) the question of gold plating (the adding of extra requirements) and (3) the transposition process.

A third possible explanation might be found in the number, level of detail and status of enforcement and compliance instruments within the different Member States. How many and what sorts of instruments are available to both inspectors and companies to help them during the enforcement and compliance?

The last element related to the legal design is the availability and form of national sanctioning instruments. The EU directives do not regulate the type of sanctioning instruments, this is a topic that is left to the Member States to arrange. Differences in availability and form of the sanctioning instruments might form an explanation for differences in enforcement styles.¹

9.2 The nature of the directive

9.2.1 *The Seveso II directive*

The Seveso II directive is based on Article 175 (TEC) and therefore is a minimum directive. This means that the Member States are free to increase the requirements in the directive when transposing it into national legislation. The Seveso II directive touches upon a number of policy areas. It regulates environmental, occupational safety and health as well as external safety elements related to major hazards. The directive is rather elaborate and specifies many obligations for both regulators and regulated. In some cases it is rather difficult to determine the precise content of these obligations. The different categories of obligations are clear – e.g. the writing of a safety report or the setting up of an internal emergency plan – but the amount of details within these general obligations left open to still complete at national level is rather extensive. This can be seen in the Annexes of the directive that specify some of the obligations in more detail. Annex II on the aspects that need to be described in the safety report

leaves quite some possibilities for different interpretations between Member States or Seveso II establishments. For example, the way the directive states what should be headed under section IV on ‘identification and accidental risk analysis and prevention methods’ is rather general. In this case, point A prescribes a ‘*detailed description of the possible major-accident scenarios and their probability or the conditions under which they occur including a summary of the events which may play a role in triggering each of these scenarios, the causes being internal or external to the installation*’. Member States have many options left open to interpret differently what should be asked of the regulated in this respect. The level of detail asked for in such a description can vary quite a bit. How detailed should a ‘detailed description’ of scenarios be and how extensive must the summary of the events be? In all Annexes of the directive sort-like examples can be found that leave many possibilities for Member States to bend the obligations to their own will. The Seveso II directive thus is a minimum directive that touches upon a number of policy areas and regulates many aspects that in some cases are described rather vaguely.

9.2.2 *The safety data sheets directive*

At first sight, the safety data sheets directive is a clear and understandable directive. On the one hand, this certainly is true. The requirements are quite clear for both regulators and regulated. Companies have to make safety data sheets for all their dangerous substances and preparations and the sheets should contain the 16 prescribed headings. Inspectors should check whether the regulated comply with these requirements. On the other hand, however, the directive is not as clear as it looks at first sight. In order to be able to compile all 16 headings (regulated) or to check their contents (regulators) requires knowledge of many different specialised areas. Compilers and inspectors should have knowledge of aspects such as chemicals, toxicology, ecology and protective measures. The referral to multiple fields of expertise makes it hard to check the sheets for only one inspector or to make them for only one compiler.

Since the SDS directive is based on Article 94 (TEC), the standards invoked by the directive are maximum standards. Member States are not allowed to add any deviating elements that contain a change of the technical requirements.² There are two specific elements in the directive, however, that can lead to differences in national transposition. Article two of the directive leaves Member States with the option to ask regulated to provide the sheets in the national language. Member States themselves can decide to add this extra requirement. A second element that might lead to different interpretations is less obvious and concerns the Annex. The Annex provides clear advice on what is expected under all 16 headings of a safety data sheet. However, the Annex of the directive is called a ‘guide’ and therefore Member States are rather free to decide how to interpret this. There might be differences between the Member States in how they interpret the word ‘guide’. Thus the safety data sheets directive is a maximum directive with only a few and rather clear and understandable obligations that, however, ask for multiple fields of expertise.

9.2.3 *Influence of the ‘nature of the directive’*

The above descriptions show that the nature of both directives is rather different. Whereas the Seveso II directive is a minimum directive – and thus leaves Member States the opportunity to add extra requirements – the safety data sheets directive is a maximum directive. The Seveso II directive contains many details and many obligations while the SDS directive is smaller and comprises fewer details. The size, in this respect, differs extensively between both directives: the Seveso II directive entails 21 pages whereas the SDS directive only consists of

seven pages. The clarity of the obligations differs as well. The Seveso II directive is more complicated and difficult to understand than the clearer SDS directive is. The nature of both directives has in common that they both touch upon multiple policy areas and are thus difficult to place into one category. Both directives ask of inspectors and companies to master many fields of expertise. Generally, the Seveso II directive is more difficult to understand and leaves more possibilities for deviations in national interpretations than the SDS directive that is more clear. Therefore, it may come as no surprise that the nature of the directive, or the differences between the natures of the two directives, forms an important explanation for some of the differences in enforcement and compliance practices.

The Seveso II directive is a minimum directive regulating vaguer requirements than the SDS directive that is a more clear and maximum directive.

The difference in nature between both directives influences the transposition processes within the Member States. One might expect that there are more differences between the national transpositions of the Seveso II directive than of the safety data sheets directive since the first directive leaves more options for adding requirements or different interpretations. This difference in nature might form the basic explanation for the existence of more differences between the four Member States while enforcing or complying with the Seveso II directive than in the case of SDS. This aspect will be further expanded in section 9.3 of this chapter on transposition.

The enforcement practices related to the Seveso II directive in the four Member States have in common that usually teams of inspectors with multiple areas of expertise – either from only one or from multiple enforcement agencies – execute the inspections jointly. An explanation for the use of teams that cover multiple areas of expertise can be found in the nature of the Seveso II directive. Since this directive covers different topics – such as environment, occupational safety and health and external safety – good enforcement requires the involvement of inspectors with different backgrounds. The safety data sheets directive also covers multiple areas of expertise, but here it does not lead to the use of teams of inspectors. In all four Member States, individual inspectors enforce the SDS directive alone. The main explanation for this can be found in the previous chapter. The topic of safety data sheets is not considered to be salient enough to enforce with teams of inspectors.

The referral to multiple areas of expertise in the SDS directive forms one of the explanations for the rather passive enforcement practices in the four Member States. The checking of a safety data sheet requires expertise covering, amongst others, toxicological, environmental and chemical aspects. In all four Member States, respondents indicate that the complexity of the different areas of expertise combined is one of the main reasons why there is not much enforcement. For example, the labour inspectorate in the Netherlands indicates that the main reason why the individual inspectors hardly focus on safety data sheets is the complexity of the topic and the difficulty for one inspector to enforce this. They claim that there is not enough experience and time available to adequately check this topic. The low interest of the HSE inspectors in Great Britain is explained by a representative with the same argument. A solution to solve this problem that it is hard for one inspector to check a sheet with so many different components would simply be to use a team of inspectors. Again, the reason why this is not the case is that the topic of the directive is not considered to be salient.

This complexity of the SDS directive also influences the usage of the sheets by its recipients. A research carried out by a department of the ‘University of Amsterdam’ in the

Netherlands shows that the recipients in smaller enterprises hardly ever use the sheets. (Geyer, et al, 1999) This research in the Netherlands, Germany and Austria shows that small and medium sized enterprises usually only collect and file the sheets and do not use them in practice due to a lack of time and resources. This group of companies finds the sheets too technical, complex and detailed to use in practice. A problem with using the sheets is the amount of knowledge necessary to understand the content. Expertise must be present in all kinds of areas, such as toxicology, environment and fire-fighting measures. This forms a problem for small and medium sized enterprises since these companies usually do not have experience in all these areas. Therefore, safety data sheets are hardly ever used in smaller companies. This makes the requirements extra frustrating for the makers of the sheets. The suppliers know that the sheets do not fulfil their goal, but are nevertheless forced to produce them.

Smaller companies hardly ever use safety data sheets because of the numerous areas of expertise needed to understand a sheet.

Compared to the SDS directive, the Seveso II directive is rather long and contains many obligations for both inspectors and companies. This aspect forms a major explanation for the reason why Seveso II inspections generally last longer and take place more frequently than safety data sheets inspections do. This higher frequency of Seveso II inspections can also be explained by the fact that the Seveso II directive explicitly asks of Member States to enforce this legislation. Article 18 of the directive orders Member States to make sure that the competent authority executes inspections according to well considered inspection plans. With this, the Seveso II directive is one of the first EU directives to explicitly ask Member States to enforce legislation. The high number of obligations also explains why there are more inspections devoted to the topic of Seveso II entirely and why the enforcement of the sheets is usually combined with the enforcement of other legislation. There is just more to inspect. It takes longer to assess a safety report and check whether an establishment has a good functioning safety management system than it takes to check safety data sheets for presence and correct content. This explains why Seveso II inspectors on average have a higher workload per company – which can be up to 80 man-days – than SDS inspectors who on average only need one to two days in total. In short, the nature of both directives explains why the Seveso II inspection intensity is generally speaking higher than the SDS inspection intensity is. Besides the impact upon the enforcement practice, this aspect naturally also influences the compliance practice. Whereas the Seveso II directive influences the entire management system of a company, the SDS requirements – depending on the number of sheets a company has to make – are less demanding. Seveso II companies have more obligations to comply with compared to SDS companies, thus it is rather logical that the Seveso II compliance costs in general are higher.

The difference in nature between both directives explains the difference in inspection style. Since the Seveso II directive contains more requirements for both regulators and regulated, the frequency of inspections is higher, the inspections last longer and inspectors have a higher workload when inspecting this directive. This difference also explains why the Seveso II compliance costs generally are higher than the SDS compliance costs are.

The complicated nature of the Seveso II directive compared to the safety data sheets directive explains why Seveso II establishments never use the European directive directly as guidance

material when complying with the legislation and SDS companies often do so. Companies that have to make sheets often indicate to use the SDS directive, especially its Annex, directly as a form of guidance. None of the Seveso II companies ever indicated to do so. This difference can be explained by the fact that the Seveso II directive in many points is too complicated and vague to use as guidance.

This difference between both directives in level of detail and clarity also influences the relationship inspectors have with companies. Generally speaking, Seveso II inspectors more often indicate to find a good relationship with companies necessary and more often indicate to be dependent on companies for information than SDS inspectors do. The main reason for this, as they claim, is that the nature of the Seveso II directive makes it hard to enforce without help of the

Because the Seveso II directive regulates aspects that are hard to check for inspectors – such as a safety management system – inspectors feel dependent on companies for receiving inside information. Without such inside information, some requirements of Seveso II are hard to enforce for inspectors.

companies. Inspectors in all four Member States claim that something as a safety management system is hard to check without internal information. In order to be able to correctly enforce this topic, inspectors are dependent on companies for inside information. When companies want to work against the inspectors they have many possibilities to withhold information. Therefore, many inspectors indicate that it is important to keep on good terms with companies in order to establish a good relationship in which companies share their information with the inspectors. One Dutch Seveso II inspector indicated to be in a difficult position between his management and the companies. On the one hand he has to keep on good terms with the companies because of this dependency on inside information, but on the other hand he is forced to act as an ‘enforcer’ by his management. This point of view of the Seveso II inspectors also explains why they see themselves more often as ‘consultation partners’, ‘advisors’ or ‘servants of the public interest’. They claim not to consider themselves to be a ‘controller’ since they are too dependent on companies for information. SDS inspectors, however, feel less dependent on companies and they describe themselves more often as ‘controllers’.

The vague nature of the Seveso II directive also forms an explanation for the low frequency of sanctioning. In all four Member States, respondents indicate that this directive is difficult to sanction since the obligations often are described too vaguely to sanction infringements. They claim that there are not enough concrete articles to enforce and that a large amount of individual interpretation is required,

Inspectors indicate that they find the requirements within the Seveso II directive too vague and possible infringements hard to notice. This explains the low level of sanctioning.

therefore. Possible infringements are not very visible and difficult to prove. This explains why in none of the countries inspectors expect a high frequency of sanctioning of non-compliance in the future. The reason why for safety data sheets it is slightly more common to sanction – although here sanctions are rare as well – can also be found in the nature of the directive. Since the SDS directive is rather small and the requirements are rather clear, it is easier for inspectors to sanction than for the more vague requirements in the Seveso II directive.³ This research shows that slightly more SDS respondents (9% of 56 company respondents) received a sanction compared to Seveso II respondents (2% of 45 company respondents). Besides, there are quite some examples available of inspectors sanctioning companies for safety data sheets. The environmental inspectorate in the Netherlands, inspectors in Bavaria and British

inspectors during the northern region project were able to present examples of actual sanctions. This difference in sanctioning practices between both directives can mainly be explained by the simpler nature of the SDS directive.

9.3 National transposition

9.3.1 *The Seveso II directive*⁴

a) Legislation

Table 9.1: *Seveso II transposition: legislation*

	NL	D	GB	E
Already existing national legislation?	yes	yes	yes	yes
Types of legislation used:				
• primary (e.g. act)	1	1	–	–
• secondary (e.g. decree)	4 (+1 in planning)	1	2	1
• alternative instrument	1	–	–	– (1 in planning)
New or already existing legislation used for the transposition?	new decrees based on existing acts	already existing ordinance based on existing act	1 new and 1 existing decree, based on an existing act	new decree based on existing act
More topics besides 'Seveso' regulated in this legislation?	no	no	no	no
Sub-national governments need to transpose parts?	no	yes	no	yes
Number of pages legislation in total? (directive: 21 pages)	71 (+61 elucidation)	62	53 (+3 elucidation)	14
Policy area(s) of act(s) on which transposition is based?	environment, occupational safety and health, disasters and fire brigade	environment	occupational safety and health and land-use planning	civil protection
Number of months the transposition was late? ⁵ (required date: 3/2/1999)	6	15	2	6
Transposition completely finished?	no (Article 12 on land-use planning)	no (1 Land still needs to transpose non-commercial establishments + the federal government is still working on some administrative measures)	yes	no (the Autonomous Communities still need to enact the national decree and the government is still working on up-dating a directive)

All four Member States already had some sort of legislation in the area of major accident hazards before the first Seveso directive came into force in 1982. The content and nature of this already existing legislation was diverse, however. Spain did not have specific legislation on major accident hazards, but touched upon this subject in its civil protection legislation with a focus on emergency planning. The Netherlands, Germany and Great Britain had a somewhat broader approach to the subject. The Netherlands already had a ‘Commission on the Prevention of Disasters’ (‘Commissie Preventie van Rampen’) making regulations in this area since 1924. The presence of densely populated and industrialised areas in the Netherlands led to this long tradition of regulating major hazards. Germany already had a so-called ‘Hazardous Incident Ordinance’ regulating this subject since 1980. Great Britain was just working on implementing a ‘Seveso-like’ regulation. The Flixborough accident in 1974 where an explosion and fire killed 28 people – one of the accidents that led to the making of Seveso I – made the British government aware of the need for regulation of this policy area. After this accident the British government set up an advisory committee on major hazards to examine the possibilities of major accident regulation. Before Great Britain could implement the advised policy, the European Commission introduced Seveso I and this directive was transposed instead of the national proposals. None of the four Member States did have such elaborate major accident hazards legislation that the Seveso directive was superfluous. For all countries, the transposition of the first Seveso directive formed the first real attempt to regulate this policy area of major hazards in its entirety.

There is a difference between the four Member States in the number of pieces of legislation used to transpose the Seveso II directive. One thing seems to be comparable: all countries used more than one piece of legislation to transpose all requirements in the directive. Spain only used one decree to transpose the directive, but is still planning to adopt an additional directive to complement its decree. Under Seveso I Spain set up a ‘Basic Directive for the Processing and Confirmation of the Special Plans of the Chemical Sector’ that expands on further technical details.⁶ This guideline describes how Autonomous Communities must deal with external emergency planning. Spain is still working on updating the old ‘Basic Directive’ to the new requirements of the Seveso II directive. The other three countries all used more than one piece of legislation. Especially the Netherlands, with six pieces and one still to come, used much legislation to transpose the directive. The Netherlands still needs to transpose Article 12 on land-use planning. The planning is that this article will be transposed into a decree based on the ‘Environmental Management Act’. Generally, the Member States used more paper to transpose Seveso II than the directive itself contains. Whereas the directive itself only consists of 21 pages, the Netherlands needed 71 pages, Germany 62 and Great Britain 53 pages in order to transpose Seveso II. Spain is an exception since it only used 14 pages for its transposition.

The type of legislation used differs as well. Whereas Great Britain and Spain only used secondary legislation, the Netherlands and Germany also used primary legislation. In the Netherlands three laws on which the secondary legislation was based had to be amended in order to harmonise some definitions. The word ‘disaster’, for example, had different definitions in environmental and occupational safety and health legislation. Germany even transposed some of the aspects of the directive directly into primary legislation. This research thus confirms the findings of Siedentopf and Ziller (as described in chapter one) that it is rather common in Germany to transpose EU directives via primary legislation. The law used had to be amended in order to make it possible to arrange the transposition. This amendment mainly was necessary because of the differentiation made in Germany between installations subject to licensing and installations not subject to licensing. The law did not allow regulating

installations not subject to licensing under the aspect of major accident hazards. Only installations subject to licensing could be regulated under this law. In the ordinance that transposed the first Seveso directive, this did not form a problem; only individual installations subject to licensing were covered by Seveso I. However, the shift from focusing on installations (Seveso I) to focusing on establishments (Seveso II) changed this. Now entire establishments with numerous installations fall under the Seveso requirements. It is very well possible that these new ‘Seveso-establishments’ cover both sorts of installations. In order to ensure that establishments with both sorts of installations are covered by the scope of the legislation, the law was amended to arrange that installations not subject to licensing could be regulated as well. Besides, three aspects from the directive were transposed directly into this law. The definition of ‘establishments’, the provision in Article 17 of the directive on prohibition of use and the subject of land-use planning (Article 12) were transposed directly into primary legislation.

The core piece of legislation that transposed the Seveso II directive is secondary legislation in all countries. In the Netherlands the ‘Major Accident Hazards Decree 1999’⁷, in Germany the ‘Hazardous Incident Ordinance’⁸, in Great Britain the ‘Control of Major Accident Hazards Regulations 1999’⁹ and in Spain ‘Royal Decree 1254/1999’¹⁰. There is a difference between the countries on

All four Member States seem to perceive the Seveso II directive in a different way; they all used legislation with different backgrounds for the transposition.

what sort of primary legislation this secondary legislation is based. In Germany, the ordinance is based on an environmental law regulating emission control. In Great Britain, however, the main occupational safety and health law is used as the basis for the regulation. Spain used civil protection legislation for the transposition. The Netherlands used a combination of four different laws as the basis for the decree, in the area of environment, occupational safety and health, major accidents and the fire brigade. In all four countries, the laws used to house the secondary legislation already existed: none of the countries set up new primary legislation for the transposition. A difference is that the Netherlands, Great Britain and Spain chose to set up new secondary legislation under these existing laws whereas Germany amended already existing secondary legislation. This again confirms the findings of Siedentopf and Ziller that Germany often uses already existing legislation for its transposition.

Whether a country has a centralised or a decentralised structure seems to influence the transposition process. The Netherlands and Great Britain arranged the transposition of all aspects within the Seveso II directive on national level. In Germany, however, there were two specific requirements that were to be transposed by the different Länder: the regulation of non-commercial establishments such as

The structure of the state influences the transposition process. Only in centralised states can the transposition be completed on national level alone.

research institutes and schools and the aspect of external emergency plans from Article 11 of the directive.¹¹ This delayed the transposition since the federal government does not really control the Länder in this respect; these two aspects fall under the scope of legislation for which the Länder are responsible. In spring 2002 one Land still had to transpose the aspect of non-commercial establishments. Only on 13 March 2002 did all Länder have their legislation in place on the topic of external emergency plans; more than three years late. Spain seems to have a similar problem. The national decree is binding for all Autonomous Communities after adoption on national level, but these Communities still need to arrange

provisions to enact this decree. The national decree, for example, does not describe who is the competent authority within the Autonomous Communities. This is logical since this is a responsibility of the Communities themselves. Besides, the subject of land-use planning (Article 12 of the directive) is a regional responsibility. Therefore, the Autonomous Communities need their own decree to further expand such provisional measures. Here as well, the national government does not seem to control the regions. In spring 2002 none of the Autonomous Communities had enacted the national decree, though some draft versions were in place. The reason for this is that the Communities are still waiting for the national government to update the basic directive to the Seveso II requirements. Communities need this directive in order to finalise the enactment of the national decree.

Considering the fact that most European directives are transposed some months – or sometimes even some years – late, the transposition of the Seveso II directive was dealt with rather quick in Great Britain and also to a lesser extent in the Netherlands and Spain. However, the Netherlands still needs to transpose Article 12 on land-use planning and in Spain the Autonomous Communities still have to enact the national decree. Germany was later than the three other countries were, mainly because of some internal problems (see heading ‘d’ on ‘transposition problems’).

b) Gold plating

Table 9.2: Seveso II transposition: gold plating

	NL	D	GB	E
Gold plating?				
• Article 9	- operators consult employees on safety report - assessment within 6 months	/	- safety report should be reasonably practicable - stricter deadlines for handing in safety report	/
• Article 18	/	/	/	/
• Annex I	/	- ammonia - extremely flammable liquefied gases - explosive dust/air mixtures	/	/
• Annex II	- risks to surface waters - company fire brigade - QRA - many extras regarding scenarios	/	/	/
• Annex III	/	/	/	/
• Extra	/	/	- charging	- also emergency plans for lower tier companies

All four Member States added some sort of extra requirements when transposing the Seveso II directive. The content and nature of the extra requirements differ, however.

Within the Dutch decree a few elements are extra compared to Articles 9 and 18 and Annexes I, II and III of the directive. Extra compared to Article 9 is the obligation for operators to consult employees when making the safety report. The decree also states that ministers can make extra rules regarding the safety report obligations. An extra element for the

All four Member States added different requirements when transposing the Seveso II directive.

inspectors is that whereas the directive mentions that the safety report has to be assessed *'within a reasonable period of receipt of the report'* (Seveso II: Article 9 (4)), the Dutch decree obliges the competent authority to do this within six months.¹² (BRZO 1999: Article 16 (1) and (2)) Article 18 of the directive on inspections is literally transposed, as are Annexes I and III. The main extras in the Dutch legislation can be found in the transposition of Annex II on the safety report. Extra compared to the directive is the emphasis on the inclusion of a detailed description of the risks to the environment and the company fire brigade.¹³ (BRZO 1999: Annex III (1)) Another extra element is the QRA, Quantitative Risk Analysis, which calculates all risks in numbers.¹⁴ (BRZO 1999: Annex III (2)) The QRA makes policy more stringent because of the need to calculate everything. The directive could have been interpreted more qualitatively. Companies have to carry out many calculations in order to comply with the Dutch legislation.

Some more extras in the Dutch legislation can be found in the 'Ministerial Order'¹⁵ and the guideline 'RIB'¹⁶ produced by the 'Commission on Prevention of Disasters'. In these two documents it can be noticed that the Netherlands attaches quite some importance to the safety report and to the description of scenarios. The information in Annex II of the EU directive on scenarios is rather broad and vague: *'detailed description of the possible major-accident scenarios and their probability or the conditions under which they occur including a summary of the events which may play a role in triggering each of these scenarios, the causes being internal or external to the installation'*. (Seveso II: Annex II, IV, A) In the ministerial order and in the 'RIB' much attention is paid to what should be understood by a 'detailed description of the possible major-accident scenarios'. The guideline extensively states that upper tier establishments should provide 'loss of containment' scenarios: three for the entire establishment (one for the company fire brigade, one for the external safety and one for the environmental risks) and two to ten per installation. The detailed description in the 'RIB' is more elaborate and demanding than the EU directive is. It is not compulsory, however, it is binding in the respect that companies should follow it in order to correctly comply with the legislation or otherwise prove that they comply in a like-wise manner.

In Germany, especially Annex I of the EU directive led to gold plating. Because Germany already added some requirements when transposing the first Seveso directive, there were some lengthy debates on the scope of the second directive. After long discussions between the environmental ministry and industry (see heading 'd' on 'transposition problems'), for three classes of substances the new German ordinance provides more elaborate provisions compared to the Seveso II directive itself. (Ordinance: Annex VII) Firstly, ammonia is in principle covered by Seveso II under the heading 'toxic substances'. (Annex I, Part 2) Establishments that house ammonia have to comply with the obligations under Seveso II when they have 50 tonnes or more present. In the German ordinance, the amounts of ammonia that may be present not to fall under the 'Seveso-requirements' are much lower: processing installations can

only house two tonnes and storage installations three tonnes. The second group for which different requirements apply in the German legislation is the group of ‘extremely flammable liquefied gases’. Annex I, part 2, of the EU directive starts with 50 tonnes whereas the German ordinance starts with three tonnes for storage facilities and two tonnes for processing installations. The third difference is that the ordinance added a group that was not covered by the directive. The ordinance provides for regulation of ‘explosive dust/air mixtures’. In general, the added requirements lead to the situation in which more establishments fall under the ‘Seveso-requirements’ than would have been the case if the provisions in the directive were followed strictly. Articles 9 and 18 and Annexes II and III were transposed literally.

The British regulation that transposed Seveso II, referred to by its abbreviation ‘COMAH’, is an almost literal copy of the directive. The Schedules attached to COMAH are exactly the same as the Annexes of the directive are. Generally, Articles 9 and 18 and Annexes I, II and III are transposed literally. What can be noticed, however, in Regulation 7 (3) of COMAH is the importance the British government attaches to the guarantee that legislation is ‘reasonably practicable’. This Article states that *‘nothing [...] shall require the report to contain information which it would not be reasonable to expect the operator to have at the time of sending the report’*. The British government did introduce two extras compared to other countries. They can not be found in the context of extra obligations to the content, but in the process of transposing and enforcing the directive. The first aspect is that the British government asked upper tier establishments to hand in their safety reports spread over a period of time. (COMAH: Regulation 7 (8)) The EU directive required companies that already had obligations under Seveso I to hand in their safety report by 3 February 2001. (Seveso II: Article 9 (3)) Great Britain decided that it would be too much work for the inspectors if all reports were due at the same time. They therefore introduced the idea of a spread of the deadlines. The British inspectors already started requiring safety reports from August 1999. Great Britain therefore was the first (part of a) Member State to actually collect safety reports. The earlier date for handing in the reports was set according to an old timetable under Seveso I. Companies that already had to hand in reports for the first Seveso directive already had dates set by which this report was supposed to be updated. The British inspectors arranged that these dates would be maintained, but now for the handing in of a safety report according to the new COMAH requirements. For example, a company with the obligation to update an old report by December 1999, now had to obligation to hand in the new COMAH safety report at that date. In this way, all reports would be collected in a long spread period of time and inspectors would have the opportunity to assess all reports adequately. The second element that is different in Great Britain is the aspect of charging. The British government decided to charge all companies, both upper and lower tier, for expenses the inspectors have when enforcing COMAH. Regulation 22 of COMAH arranges that *‘a fee shall be payable by the operator of an establishment to the Executive for the performance by or on behalf of the competent authority of any function conferred on the authority of these Regulations’*. The fee will be measured by looking at the hours inspectors spend on COMAH related issues within a company.

The Spanish decree is an almost literal translation of the Seveso II directive. Articles 9 and 18 and Annexes I, II and III are literally transposed. These Articles and Annexes are focused on the safety report requirements and the inspections. In Spain it is necessary, however, to also mention the transposition of Article 11 on emergency plans. The nature of the Spanish interpretation during the transposition of the Seveso II directive can be summarised as having a

large focus on external emergency planning. Of all aspects regulated in the Seveso II directive, the Spanish 'Royal Decree 1254/1999' to a large extent focuses on this aspect of emergency planning. Before the existence of both Seveso directives, Spain already had legislation regarding safety in certain installations related to chemical substances, petrol storage and refineries. Spain already had some legislation on civil protection and emergency plans since 1985, just before entering the European Community.¹⁷ The emphasis on this aspect led to the setting up of extra requirements in this area. In general, the national government did follow the lines of the directive word for word, except in the case of in-site and off-site emergency plans. Whereas the directive only requires upper tier companies to hand in those plans, Spain broadened the scope to more companies; also lower tier companies are expected to hand in emergency plans.

Autonomous Communities are allowed to add extra requirements when enacting the national decree. Catalonia is thinking about an extra obligation for companies. After example of the Netherlands, Catalonia is thinking about adding the 'Quantitative Risk Analysis' for upper tier companies since Catalonia also has many Seveso II companies located close together in one region. Since the Catalan decree is not yet adopted, it is still uncertain whether and to what extent this will be added.

Gold plating shows the importance countries attach to certain requirements. The Dutch stress the scenarios and QRA within the safety report, Germans pay most attention to the thresholds of the substances and the Spanish place the emphasis on the emergency plan requirements.

c) Transposition process

The main difference, related to the transposition process, between the four Member States studied is the high number of ministries involved in the Netherlands. In Germany, Great Britain and Spain only one actor was responsible for the transposition of the Seveso II directive. In Germany the federal 'Ministry for Environment, Nature Conservation and Nuclear Safety' ('Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit') was responsible for the transposition.¹⁸ In Great Britain the 'Health and Safety Executive' transposed Seveso II. Officially, the HSE co-operated with two environmental agencies: the 'Environment Agency' (responsible for England and Wales) and the 'Scottish Environment Protection Agency'. However, these two agencies were involved rather late in the transposition process; only after the moment that the HSE already did most of the work. In Spain the national 'Ministry of Justice and Interior Affairs' ('Ministerio de Justicia e Interior'), via its specific 'Directorate General on Civil Protection' ('Dirección General de Protección Civil'), arranged the transposition.¹⁹

In the Netherlands, the transposition was the work of three ministries together. Since the 'Major Accident Hazards Decree' is based on four different laws, it was necessary to involve more than one ministry in the transposition. The four laws are the responsibility of three different ministries: the 'Ministry of Housing, Spatial Planning and the Environment' ('Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu'), the 'Ministry of Social Affairs and Employment' ('Ministerie van Sociale Zaken en Werkgelegenheid') and the 'Ministry of the Interior and Kingdom Relations' ('Ministerie van Binnenlandse Zaken en Koninkrijksrelaties'). The transposition in the Netherlands was a combined approach between these three ministries, but the environmental ministry was the co-ordinator. At first, this combined and integrated approach did not seem obvious. Normally, one ministry takes the lead in discussions. Other ministries can be involved, but only in the role of advisor or commentator. Because of the obvious relation with three policy areas – the environment,

workers safety and external safety – this approach did not seem to be obvious for this directive. It took a few discussions to convince all actors involved of the surplus value of co-operation, but eventually the transposition was a joint process.

In the Netherlands, Germany and Spain ministries were responsible for the transposition. In Great Britain an independent public body took care of the transposition. Another obvious difference between the countries is the involvement of actors representing different policy areas in the transposition. In Germany the *environmental* ministry was the responsible actor; in Great Britain it mainly was the *occupational safety and health* authority; in Spain it was the ministry for interior affairs, the department on *civil protection*, and, finally, in the Netherlands it was a *combination of these three* ministries. Different countries seem to perceive the Seveso II directive in a different way. For one country the environmental aspect is most important whereas for another country the aspect of civil protection is the main factor of interest.

Different topics are important for the different Member States. Germans emphasise the environment, British the safety and health aspects and Spanish the emergency aspects.

Because of their state structures, Germany and Spain had to co-operate with the Länder and Autonomous Communities on the transposition. An obvious difference is the amount of involvement of these actors in the two countries. Whereas the Länder in Germany are involved and concerned with the topic – heavy discussions took place in the ‘Bundesrat’ and committees – the Autonomous Communities in Spain were hardly involved in the transposition process. In Germany, there are two different stages in which the Länder can be involved in the process of transposition. The Länder are all represented in one chamber of the parliament, the ‘Bundesrat’. Here they have the chance to discuss all legislation that concerns them. The Länder also participate at the committee stage. There are federal and Länder committees to take care of the preparations for the transposition of legislation. In the area of major hazard policy, there is the ‘Länder Commission for Immission Control’ (‘Länder Ausschuss Immissionsschutz’). Especially a subcommittee of this commission was important during the process of transposing the Seveso II directive: the subcommittee on ‘Installation Safety’ (‘Anlagensicherheit’). It discusses all problems related to the ‘Hazardous Incident Ordinance’. They try to find common solutions to possible problems to make sure that all Länder deal with this in the same way. The specialists from the Länder ministries (mostly the environment ministries) participate in this committee. In the case of transposing the Seveso II directive, the Länder in the ‘Bundesrat’ and the ‘Committee on Installation Safety’ did not have a uniform opinion on the draft proposed by the federal environmental ministry. (See heading ‘d’ on ‘transposition problems’.)

In all four Member States there are official structures for industry to be involved in the negotiations during the transposition. Industry had comments on the transposition of the Seveso II directive in all countries. The involvement was the least obvious in Spain. None of the representatives was able to mention an obvious contribution of industry to the transposition. In the Netherlands, industry was involved when the government set up some of its guidance material. Companies such as DSM, Exxon Chemical Holland and Akzo Nobel were involved in the setting up of the ‘RIB’. In Great Britain it is common to issue consultation documents. These documents are discussed in committees with representatives of governmental bodies, trade unions and industry associations. In these meetings, these actors have a chance to influence the content of the regulation. In the case of Seveso II industry had many comments. They were rather satisfied with the situation as it was under Seveso I and did not

see the need for change. The comments of industry were most visible in Germany, where industry did not agree with the draft proposal of the environmental ministry that included extra requirements. (See heading 'd' on 'transposition problems'.)

The influence of the parliament on the transposition process was absent in three of the four countries. The Dutch, British and Spanish parliaments did not have any comments on the proposals for transposing the directive. Only in Germany, the 'Bundesrat', representing the 16 Länder, was involved in the discussions on the transposition.

d) Transposition problems

Three of the four Member States mentioned to have had some sort of problems during the transposition. Only in Spain the Seveso II directive was transposed into 'Royal Decree 1254/1999' without any major problems. Multiple parties have been involved in the transposition, but none of them had any comments or problems. The only problem is that the central government still did not amend the 'Basic Directive' already in place under Seveso I and did not yet give detailed information on domino effects. Therefore, the Autonomous Communities did not yet finish the enactment of the national Decree.

A few bottlenecks can be mentioned related to the transposition of Seveso II in the Netherlands. There were some problems related to the difficult co-operation between the different ministries and industry has some comments on the Dutch transposition process. The three ministries had problems in the beginning of their co-operation. The Dutch reputation of difficult co-operation between the ministries when transposing EU directives as mentioned in chapter one is thus confirmed by this transposition process. All articles were discussed together, but not all articles were transposed smoothly, however. Some aspects took a few months of lengthy discussions; some interviewees even mentioned the word 'fights'. All three ministries were eager to keep their own responsibilities, which led to the situation where points agreed in previous meetings were taken up over and over again. None of the actors involved wished to hand in responsibilities and discussions were needed to solve this, therefore. The reason for these discussions for the most part was related to differences in definitions that existed between the various ministries. Problems concerning the word 'risks', for example, led to the situation in which the word is not used in the Dutch decree at all. The background of this word differed too much between the social affairs and environment ministries. Whereas a 'risk' is quantitatively measurable for the environmental ministry (see the use of the QRA), it is a qualitative concept for the social affairs ministry. Problems such as these led to the transposition being late. After these definitions were harmonised, the co-operation between the three ministries was rather smooth.

Industry had some criticism on the way in which the Dutch government transposed the Seveso II directive. Within the Netherlands, quite some consultation took place between government and industry on the transposition. In these consultations, industry was given the promise of 'flat implementation' with no addition of extra obligations. The above description under the heading 'gold plating', however, already showed that the Netherlands added quite some extras, especially in relation to the safety report and the needed scenarios. The main point of dissent is formed by the detailed extent with which to describe the width-scenarios and the calculation of the 'Quantitative Risk Analysis'. Companies complain that in other countries the scenarios asked for are far more general. According to industry it would be more logical to write scenarios for the most dangerous installations alone. One company claims that if it would write all scenarios asked for with the personnel available, this would take approximately ten years. The QRA also leads to extra obligations according to industry.

In other countries, some respondents claim, companies do not have to calculate their scenarios which leads to less work when writing the safety report. Industry was involved in the transposition, but it claims it was not able to prevent these extra obligations from being added.

Within Great Britain many drafts were needed before the British regulation could finally be signed. There have been all sorts of minor problems during the transposition. Most had to do with practical aspects such as how to make it work, the meaning in practice and explaining to operators what to do. Most of the problems were rather easy to solve and have been solved in co-operation between the competent authority and industry. The main reason for this need of many drafts was the situation that the British industry was rather content with Seveso I and did not see the need to shift to Seveso II. In the beginning of the process of transposing the Seveso II directive, industry was hardly concerned and thought that it would be easy to switch. It was thought that the transition to COMAH would lead to *'just some minor editorial detail'*. They were strengthened in this thought by the British government who at first took the transition rather lightly. Industry claims that the competent authority has been telling them that there was not going to be a big change. When, after more in-depth study by the government of the new Seveso directive, it turned out to be a bigger change than expected industry felt upset. Industry felt that the British government misled them. The competent authority itself agrees with this mistake of not knowing what to expect at first and regrets that industry thinks it has been misled on purpose.

Industry in general has a few problems with the way in which the British government transposed the Seveso II directive into COMAH. The first problem is that inspectors are charging for their activities under COMAH. This is an aspect that is not taken lightly by industry and on which they often complain. They feel they have not been consulted enough on this topic and did not have a real opportunity to withhold the government from making this decision. It is not so much the charging itself that upsets industry, but more the way in which it is carried out. Companies are concerned with the time they are being charged for off-site work by the inspectors. They feel they do not control this time and inspectors can easily charge more than they have been doing. Operators do not pay a sum in front, but have to wait what amount of time inspectors spend on assessing their report and inspecting their site. This makes it impossible for companies to budget this aspect, which is seen as frustrating. They would find it more acceptable if they knew what they had to pay in the beginning of the year: *'It's almost like giving the competent authority an open chequebook.'* Industry also had some problems with the new system of taking in safety reports the government introduced. Some companies, with an early deadline under Seveso I, now suddenly had to finish their safety report sooner than the prescribed deadline of February 2001 in the directive. At first, when industry thought that COMAH would not bring about many changes, they did not find this a problem. But when operators realised the amount of work the making of a safety report entailed, they found they were disadvantaged compared to companies in other countries that had more time to finish their reports. Industry feels their country is more rigid in this deadline than other countries are.

In Germany there were some major problems that in the end resulted in the transposition being fifteen months late. On a rather fundamental level there were deep and intense discussions on two aspects: the change in philosophy related to the transition from Seveso I to Seveso II and the adding of extra requirements.

The change in philosophy from Seveso I to Seveso II caused considerable problems in

Germany. This change from a focus on individual installations to entire establishments led to two problems in Germany. First, the German legislation was completely focused on individual installations and the shift to entire establishments in Seveso II was something the German delegation tried to prevent for a long time during the negotiations. As they did not succeed, Germany had problems transposing the Seveso II directive. The German translation of the directive that was available did not seem to be of sufficient quality to help in understanding the new concept of establishments. The word 'establishments' was not defined within German legislation; a definition had to be developed. Second, because the German legislation was more focused on installations and not on establishments, Germany had no experience with the regulation of the management systems of an entire establishment. In Germany process safety was mostly dominated by technical measures. The shift of focus in the Seveso II directive to more attention for organisational or management measures seemed strange to many people. The new focus on safety management systems was therefore rather difficult. Germany was more used to a hardware oriented focus. (Jones, 1997: 178) The old focus of looking at individual installations does not concern an aspect such as the management of the entire establishment. A problem for Germany, since they hardly paid attention to the subject of 'safety management systems' before. This change in philosophy is one of the two aspects that explain the late German transposition.

Germany had major problems with the transposition of the Seveso II directive. This led to the transposition being late.

The second aspect is related to gold plating. Within Germany there were differences of opinion on whether to include extra elements or not. When transposing the first Seveso directive Germany added some requirements. During the transposition of Seveso II, the federal environmental ministry pled to maintain these extra requirements. They favoured a more strict approach than the EU directive prescribed. Two other ministries, the economics and labour ministries, supported a more lenient approach and favoured a 'one to one' transposition of the directive. As might be expected, industry favoured a flat transposition as well. The German chemical industry association, 'Verein der Chemischen Industrie', supported the economics ministry in its aim to have a one to one transposition. The Länder also differed of opinion. Some Länder supported the federal ministry for the environment in their view that all extra elements should be included and some Länder joined the ministry of economics and the industry in that the Seveso II directive should be transposed one to one. Some southern Länder – Baden-Württemberg, Bavaria and Rheinland-Pfalz – supported the 'industry' point of view and pled for flat transposition. These three Länder proposed an initiative in the 'Bundesrat' for a 'one to one' transposition. These Länder were against the inclusion of extra requirements since this would only complicate the transposition and the compliance for companies. In the end, the different parties reached a compromise and some extras were included, but not all initially introduced by the environmental ministry. This hot debate took nearly three years and caused for the transposition to be late in comparison to other Member States.

9.3.2 *The safety data sheets directive*²⁰a) *Legislation*Table 9.3: *SDS transposition: legislation*

	NL	D	GB	E
Already existing national legislation?	no (international voluntary system)	no (national voluntary system)	no (general obligation + international voluntary system)	no (international voluntary system)
Types of legislation used:				
• primary (e.g. act)	–	–	–	–
• secondary (e.g. decree)	1	1	1	1
• alternative instrument	–	1	1	–
New or already existing legislation used for the transposition?	new decree based on existing act	already existing ordinance based on existing act	new regulation based on existing act	new decree based on existing act and constitution
Transposition second directive?	amendment	amendment	amendment	new legislation
More topics besides 'SDS' regulated in this legislation?	no	yes	yes	yes
Need for sub-national governments to transpose parts?	no	no	no	no
Number of pages legislation in total? (directive: 7 pages)	4 (15 elucidation)	0,5 guidance: 30	2 guidance: 13	4,5
Policy area(s) of act(s) on which the transposition is based?	hazardous substances	chemicals	occupational safety and health	health
Number of months transposition first directive was late? ²¹ (required date: 30 May 1991)	23	29	27	25
Number of months transposition second directive was late? (required date: 1 January 1995)	0	1	0	2
Transposition completely finished?	yes	yes	yes	yes

Of the four Member States studied, Germany already had a voluntary system for safety data sheets and Great Britain had a general obligation to supply information on chemicals. The sheets in the German system were called 'DIN – Sicherheitsdatenblätter'. DIN ('Deutsches Institut für Normung') is the German standardisation organisation that set up a standardised format for safety data sheets. This system took place on a voluntary basis since the 1980s and was thus not enforced. The sheets, according to this system, contained less information than the new European regulated sheets do. The requirements in Great Britain did not refer to the concept of safety data sheets as such – section six of the 'Health and Safety at Work etc Act

1974' only required suppliers to give information on chemicals that they supply – and thus were not enforced in the context of safety data sheets either. Spain and the Netherlands did not have any prior legislation at all. Therefore in all four countries the transposition of the directive formed the first attempt to officially regulate the subject of safety data sheets. However, most chemical companies, especially the larger ones and the multinationals, already had a system in place to provide some sort of safety data sheets. There already was a standard of the 'International Standardisation Organisation' – the ISO 11014-1 standard – and within the United States there also was a format for sheets with nine headings available. These two standards were less detailed and had fewer headings than the 16 headings prescribed by the EU directive, but at least most companies were aware of the existence of the sheets and were familiar with the concept. One can say that the European directive was an attempt to harmonise the sheets already available in Europe into one standard concept.

All four Member States used one piece of secondary legislation to transpose the directive. The Netherlands used its 'Safety Data Sheets Decree'²², Germany its 'Hazardous Substances Ordinance'²³, Great Britain 'The Chemical (Hazard Information and Packaging for Supply) Regulations'²⁴ and finally Spain used 'Royal Decree 1078/1993'²⁵. The four Member States dealt differently with the reproduction of the Annex of the directive that mentions the 16 headings and their contents. Spain mentions the 16 headings and their contents in the secondary legislation itself and the Netherlands mentions the headings via a referral to the Annex of the directive within its national legislation. Germany and Great Britain chose the option to use an alternative instrument to define the 16 headings. The German secondary legislation does not describe the detailed provisions related to safety data sheets. For this purpose, further guidance was established: 'Technical Rules for Hazardous Substances 220 – Safety Data Sheet for Hazardous Substances and Preparations'.²⁶ This specific technical rule is meant to interpret the legislation for both companies and inspectors. It gives a general explanation of the obligations and it describes the contents under the 16 headings. The same principle applies to the British situation. The British secondary legislation does not describe the contents of the 16 headings; for this an 'Approved Code of Practice on safety data sheets for substances and preparations for supply' was introduced.²⁷ The code was set up on basis of joint consultation with employers, employees, experts and governmental departments. Both the German technical rule and the British code have a special status in law. If companies follow the rules they know they comply with the legislation correctly. If not and an infringement is found, they have to prove that they do comply correctly in a sort-like way.

There is a difference in the number of topics regulated in the national legislation. The secondary legislation used to transpose the SDS directive in Germany, Great Britain and Spain resemble each other. In these three cases, the legislation does not only regulate the subject of safety data sheets, but other topics as well. These three countries combined the regulation of safety data sheets with their regulation of topics such as classification, labelling and packaging of dangerous substances and preparations. The Netherlands, however, transposed the directive into legislation that only touches upon the subject of safety data sheets. The topics with which this is combined in the other three countries are regulated in separate pieces of legislation in the Netherlands. Germany was the only country that used already existing legislation to transpose the direc-

Whereas the three other countries regulate other topics as well in their 'SDS legislation', the Netherlands devoted one decree alone to the topic of safety data sheets.

tive. This again confirms the study by Siedentopf and Ziller mentioned in chapter one that concluded that Germany often uses existing legislation for the transposition. In all countries, the directive was transposed on national level. The policy area of the already existing primary legislation used to house the transposing secondary legislation differs between the countries. Great Britain and Spain used general framework legislation in the area of occupational safety and health, whereas the Netherlands and Germany chose to use more specific legislation such as hazardous substances and chemicals legislation.

The four Member States in this research were all about two years late with their transposition of the first European directive on safety data sheets. According to Article 5, the Member States should have transposed the directive by 30 May 1991 at the latest. Since the directive was adopted on 5 March 1991, the time for transposition was less than three months. Such a short period to transpose a directive is rather unusual and leaves hardly any possibilities for the Member States to transpose on time. It was thought that such a technical directive would not cause problems in the Member States and therefore could be transposed quickly. However, according to some respondents, before a European directive can be transposed into national legislation most countries need at least a period of a year to consult all actors involved. It is striking that the Netherlands was the first country to transpose the directive and also the only country that transposed this aspect in complete separated legislation. The other countries combined the topic of safety data sheets with other topics and were later with the transposition. Germany was the latest, which might be explained by its transposition into an already existing ordinance. This supports the conclusion by Siedentopf and Ziller as stated in chapter one that a combination of topics in one piece of legislation and the amendment of already existing legislation both delay the transposition of European legislation. The four Member States were on time (or only one or two months late) with the transposition of the second directive. The time period given for this by the Commission was more workable: slightly more than a year.

b) Gold plating

Table 9.4: SDS transposition: gold plating

	NL	D	GB	E
Gold plating?	no (however; possible to interpret Annex as compulsory)	no	no	yes (companies must send their sheets to the national health ministry)

The option offered in Article two of the first safety data sheets directive to use the national language for the compilation of the sheets was used by all four Member States. Governments in all four countries emphasise that they find it important that users of dangerous chemicals can read the information in the national language. Many users of these products find it hard to understand such complicated information, led alone in another language. The sheets contain many details that can easily be misunderstood when using another language.

The four Member States transposed all elements asked for in the directive. The contents under the 16 headings are normally almost literally reproduced. The Netherlands directly refers to the Annex of the directive and Spain and Great Britain almost literally translated the Annex into their own legislation. Only Germany chose to make the description of the con-

tents slightly more elaborate. Whereas the Annex of the directive describes the 16 headings in five pages, the German technical rule explains the headings in 21 pages. None of the countries added extra requirements that relate to the 16 headings and their contents.

The status of the Annex – which itself is called a ‘guide’ – is most unclear in the Netherlands. Whereas the other three countries use the word ‘guide’ to indicate the Annex of the directive, as the directive itself does, the Netherlands chose to do this differently. Article three of the Dutch decree states that the sheets *must* meet the requirements as they are laid down in the Annex of the directive.

In the Netherlands the sheets *must* meet the requirements in the Annex whereas the other Member States use the word ‘guide’.

This statement can be interpreted stricter by the enforcers than the word ‘guide’ in the Annex of the directive itself suggests. It can be interpreted that the Annex is obligatory and not a guide. As could be expected, inspectors and industry differ of opinion in this respect.

Spain is the only country that added another extra requirement. Spain did not change or add anything to the content of the safety data sheets directive, but the Royal Decree does introduce an extra obligation for companies compared to the directive. All companies that have to produce safety data sheets have to send a copy of all their sheets to the national ‘Ministry of Health and Consumption’ (‘Ministerio de Sanidad y Consumo’).

c) Transposition process

A body responsible for the subject of occupational safety and health arranged the transposition in all four Member States. The sort of actor responsible for the transposition differs, however. In Spain and the Netherlands, a ministry was responsible for the transposition. In Spain the national ‘Ministry of Health and Consumption’ (‘Ministerio de Sanidad y Consumo’) was responsible. In the Netherlands the ‘Ministry of Social Affairs and Employment’ (‘Ministerie van Sociale Zaken en Werkgelegenheid’) – which was appointed after a few discussions between different ministries on which ministry should be responsible – transposed the safety data sheets directive.²⁸ In Germany and Great Britain, this responsibility was delegated to another organ. In Germany officially the ‘Federal Ministry of Labour and Social Affairs’ (‘Bundesministerium für Arbeit und Sozialordnung’) is the ministry responsible for the transposition of the SDS directive. However, this ministry delegated some of its tasks to a lower body: the ‘Federal Institute for Occupational Safety and Health’ (‘Bundesanstalt für Arbeitsschutz und Arbeitsmedizin’). This institute was set up in 1996 when the federal ministry remitted its tasks in this area. The institute supports the federal ministry in all its questions related to occupational safety and health. One department of the institute, ‘Abteilung AS 2 Gefährliche Stoffe’, focuses on hazardous substances in specific and is responsible for handling all federal aspects related to this topic. This department, therefore, was responsible for the transposition of the SDS directive. In Great Britain the same principle applied. Here as well governmental departments delegated the responsibility for the implementation of occupational safety and health to an – as they call it – ‘independent governmental department’: the ‘Health and Safety Executive’. Its ‘Chemicals Policy Division’ was responsible for transposing the directive. One governmental department was involved, but only to a minor extent: the ‘Department of the Environment, Transport and the Regions’.²⁹ This department was consulted on the environmental aspects of safety data sheets.

Because of the structure of the state in Germany and Spain, the Länder and the Autonomous Communities were asked for their comments as well. In both countries, these actors did not

have any major remarks. Representatives in both cases claimed to have withheld from comments since the national legislation transposed the directive literally.³⁰

All four countries seem to have a structure in which the regulated are consulted on draft proposals of legislation. In Germany, Great Britain and Spain, industry did not feel the need to comment. Representatives in these three countries claimed to have withheld from comments since the new national legislation was a literal translation of the European directive. In the Netherlands, industry did have some comment. A few larger chemical companies such as Exxon, DOW and ESSO and the 'Association for Dutch Chemical Industry' ('Vereniging voor de Nederlandse Chemische Industrie') commented on the obligation to produce the sheets in the national language. Larger multinationals export many products and claimed that this extra obligation would lead to extra work. Sheets would have to be translated in Dutch for only a few clients in the Netherlands. Government did not agree to this comment and stated that the sheets contain complex and important information and must therefore be available in the national language. Industry did not win this argument, therefore. The parliament was not involved in any of the four Member States.

d) Transposition problems

In three of the four Member States there were no problems at all during the transposition. As stated, industry in the Netherlands did have some minor comments, but these did not influence the transposition process heavily and these issues were solved rather quickly. Also the Netherlands had some problems appointing the responsible ministry, but after this decision the transposition of the safety data sheets directive was a smooth process.

9.3.3 Influence of the 'transposition'

The above descriptions of the transposition of the Seveso II and safety data sheets directives show that the transposition of EU directives into national legislation can be an extremely complicated process, even in the case of relatively 'narrow' subjects such as presented in these two directives. What differences in transposition between the four Member States explain differences in enforcement and compliance practices?

a) The Seveso II directive

The transpositions of the Seveso II directive in the four Member States are rather diverging. The main reason for this can be found in the nature of the directive. Since Seveso II is a minimum directive Member States are allowed to add extra requirements, which they did. Also the rather vague expressions used to describe certain requirements within the directive calls for the need to change the wording of

The nature of the Seveso II directive – a minimum directive with rather vague requirements – explains why there are many differences in national transpositions.

the directive when transposing it into national legislation. These characteristics of the directive explain why the transposition differs so much between the four countries.

Generally speaking, the insistent enforcement style in the Netherlands and the high compliance costs that Dutch companies have can to a large extent be explained by the transposition of the Seveso II directive in this country. Compared to the other three Member States, the Netherlands used most pages, most pieces of legislation and most policy areas to transpose Seveso II. This already shows that the Netherlands finds this topic of legislation important and takes its transposition serious. It might be that because of this the enforcement receives

much attention as well. Because the transposition is a joint process by three ministries, there are three enforcement agencies involved. The involvement of many actors representing different policy areas ensures that all elements touched upon in the directive are actually covered during the enforcement. This leads to an intensive inspection system, which might explain the legalistic nature of the Dutch inspection style. The large number of actors involved and the large quantity of paperwork could also have led to a complex enforcement practice with a more conciliatory enforcement and compliance style. It could have been thinkable that such a complex web of regulations is hard to understand for inspectors and companies and therefore a more legalistic enforcement style might have been difficult. It could also have been thinkable that the co-operation between three different agencies with each a different background would have led to the absence of any enforcement at all. This is not the case, however, in the Netherlands. The involvement of many actors and many pieces of legislation did not prevent a more insistent enforcement style or intensive compliance practice to take place.

The insistent Dutch enforcement style and high compliance costs especially are indebted to the gold plating during the transposition of the Seveso II directive. The content of the added requirements shows that the Netherlands attaches great value to the aspect of the safety report, and in particular its scenarios. The Netherlands made the rather vague requirements in the directive on scenarios more explicit and asked companies to, on the one hand, write detailed scenarios and, on the other hand, calculate the risks by adding the requirement of executing a 'Quantitative Risk Analysis'. These more detailed requirements did not so much increase the number of scenarios companies have to write per installation, but did increase the time and effort per scenario. Also the QRA takes up a considerable amount of time of companies. With these added requirements, and some detailed guidance material, the Dutch government showed the inspectors the importance attached to this subject of the safety report and in this way influenced their assessment style. This explains the legalistic assessment style of Dutch inspectors and the high compliance costs companies have when writing the safety report.

The transposition also to a large extent explains the nature of the German enforcement and compliance practice. The late transposition in this country influenced the entire enforcement practice. There are a couple of reasons why the transposition was late. Firstly, Germany was late because of the wish to include extra elements and the usage of already existing secondary legislation for the transposition.

The late transposition of the Seveso II directive to a large extent influenced the enforcement and compliance practice in Germany.

Secondly, the change in philosophy of the directive influenced the German transposition. Thirdly, the need for Länder to transpose certain elements also delayed the process. The late transposition influenced the enforcement practice in that the development of enforcement structures and possible inspection and assessment tools was rather late in Germany. While the Netherlands and Great Britain were already working on setting up their enforcement structures, German inspectors still had to wait for the transposition to be completed. Therefore, the German inspection and assessment approaches were still in an early phase during the time of conducting this research. Without well-developed enforcement structures and clear guidance material it is more difficult for inspectors to adopt a legalistic enforcement approach.

The added requirements in Germany relate to quantities of substance allowed. Therefore, German companies have more chance of being a 'Seveso company' than companies in the

three other Member States have. This gold plating only leads to more Seveso companies in total and does not make the enforcement style more legalistic or the compliance practice more intensive. The one aspect that influences the German compliance practice is the already existing German legislation in this area – one of the main reasons why the transposition was late. As stated before, in Germany prior legislation in this policy area was related to individual installations and not so much to entire establishments. Therefore, German companies were used to writing safety analyses for individual installations, but not for entire establishments. Seveso I only covered installations subject to licensing and thus German companies only had safety analyses for these particular installations. With Seveso II however, the focus was on entire establishments that could also cover installations not subject to licensing. German companies thus newly had to set up safety analyses for these new installations and a safety management system for the entire establishment. Since all German companies were considered as individual installations before, the entire establishments under Seveso II – that also covered new installations not subject to licensing – were all considered as new Seveso establishments and thus had the later deadline of 3 February 2002, one year later than most Dutch, British and Spanish upper tier establishments. Therefore German companies were rather late with their compliance practice at the time of conducting this research. Due to this change in legislation German companies are likely to have more difficulties in setting up a safety management system. Because of the focus on individual installations, a safety management system for the entire establishment is an aspect that is rather new to most – with the exception of larger multinationals – German companies.

The deviating focus of prior legislation made the change to Seveso II difficult for most German companies.

In Great Britain, the two elements that are extra compared to the other three countries explain some of the deviating practices. First of all, the spread of the deadline for companies to hand in their safety reports was the main factor that explains why British inspectors were the first to receive safety reports. This gave the inspectors more time per individual report and thus more opportunity to be strict in the assessment. However, this can not be the main explaining reason why British inspectors show a legalistic assessment style. Dutch inspectors have a short assessment period and they are as legalistic as the British inspectors are. The time available per assessment does therefore not necessarily seem to influence the assessment style of inspectors. The second element that was added explains many aspects: the charging system. Both inspectors and companies are negative about the charging system and both groups claim that this aspect explains many problems. It negatively influenced the relationship between inspectors and companies. Before the charging system, this relationship was better. Where the giving of advice used to be an important aspect of the inspector's job, this situation changed. One operator has the following remark: *'When you know that someone on the other side of the line is charging you with £104 an hour, it does inhibit you wanting to ring and talk to them.'* Some operators even go as far as to say that inspectors are not willing to help any longer and are just focusing on aspects that are chargeable. Not just the advice aspect is changed. It is the format of the visit, the entire way of working together with the inspectors that has changed: *'Before I would have said, "would you like to come down, we will go through this and have a cup of tea". But now you're conscious that when they come down, you're paying for every minute. When I do request them to come in, it will be all of use all the time, as constructively as it can.'* In this way, charging made the relationship more formal than it was before. Inspectors notice this as well: *'They don't like it and they argue with you all the*

time. They ask how long have you spend doing this and that. "Am I being charged for this conversation", that sort of things.' Now inspectors feel that companies watch them all the time. In this way, the charging regime made inspectors more conscious about their own efficiency. Companies will not tolerate two inspectors looking at the same aspects and therefore inspectors are forced to execute the inspections individually and they are forced to communicate with their team-members on what has been checked before and what not. It thus explains why British inspectors more often individually inspect companies. The charging regime also explains why Great Britain works with a lead unit system in which different sites from the same company are enforced according to a uniform approach. This is a good drive to get the inspectors to work in a more consistent way. If a company has more sites throughout Great Britain and an inspector at one site asks questions and an inspector at another site asks the same questions, the company will claim that it has been charged twice for the same questions. Now there is more need to be consistent otherwise companies will start complaining. The charging regime thus explains why Great Britain shows the most uniform enforcement practice of the four Member States.

The British charging regime explains why the relationship between companies and an inspector is less good, inspections are more formal and inspectors advice less often.

The charging system especially led to a problem for environmental inspectors. The checking of control measures for integrated pollution control legislation resembles the checking of control measures under COMAH. This causes problems for the charging regime under COMAH. Since companies pay a sum in front each year for measures taken for integrated pollution control, they rather have inspectors look at control measures under this than under COMAH for which they are charged by the hour. Environmental inspectors feel they have to justify every step they take. The charging system explains why British companies have rather high compliance costs imposed by the government related to the assessment of the safety report and the inspections.

As was the case in Germany, the late transposition in Spain caused the late start of the setting up of enforcement structures related to the assessment of the safety report and the inspections. Because the Spanish government did not yet update its 'Basic Directive', the Autonomous Communities did not yet enact the national decree that transposed Seveso II. Therefore, many of the official arrangements are still lacking and this results in a later start of the assessment of the new safety reports and the new inspections according to the requirements in the Seveso II directive. The reason why Spain seems to pay less attention to the safety report requirements – and thus shows a more persuasive enforcement style and lower compliance costs for companies – can be found in the Spanish interpretation of the directive. Whereas all other Member States consider the safety report to be the most important part of the Seveso II directive, Spain mainly focuses on the aspect of emergency planning. The legislation that was available before the transposition of the first Seveso directive is the main factor of influence here. Because Spain approached this topic from the point of view of civil protection – and thus transposed Seveso II in a decree based on a civil protection law – the enforcement practice is focused on emergency planning. This explains why the only extra requirement in Spain is related to emergency planning (lower tier companies also have to produce emergency plans), why this is the topic for

The Spanish transposition of the Seveso II directive into civil protection legislation leads to an extensive focus on the aspect of emergency planning.

which guidance is set up (Basic Directive) and why this topic forms the basis of most national consultations. Because of this focus on emergency planning, the aspect of the safety report is somewhat taken up more lightly and thus receives less attention than in the Netherlands and Great Britain. Would this research have focused on emergency planning instead of on the safety report, the Spanish enforcement style would have been more legalistic.

b) The safety data sheets directive

Generally, there are no extreme differences between the four Member States in the transposition of the safety data sheets directive. An important explanation for this is the nature of the directive and its low saliency. Since the directive is a maximum directive the Member States are not allowed to add requirements. The directive describes a limited range of requirements in a clear manner and thus there is no need for Member States to change the wording of the directive in order to make it more understandable. Therefore the national legislation that transposed the directive in the four countries usually literally used the text of the directive. Because the directive is not considered to be extremely important there is no need within Member States to change the requirements. There are a few minor differences between the countries, however.

The transposition of the SDS directive hardly differs between the four Member States.

The one main difference between the four Member States – the more insistent enforcement style of the Netherlands – can for a part be explained by the transposition. There are two elements that indicate the greater importance attached to this topic of legislation in the Netherlands compared to the three other countries. Whereas the other three Member States all transposed the SDS directive in a decree together with other topics of legislation, the Netherlands was the only country to devote an entire decree to this topic alone. It might very well be that a decree devoted to one topic alone receives more attention during its enforcement due to its higher visibility than a decree that houses many different topics. Moreover since some of the other topics with which the SDS directive is transposed in the other three Member States – preparations and substances directives – are considered to be more important. Therefore, the Dutch insistent enforcement approach might be stimulated by the presence of one decree devoted to the topic of safety data sheets alone. The second element that contributes to the more legalistic enforcement style in the Netherlands is the status of the Annex. Whereas the other three Member States stick to the word ‘guide’, the Netherlands was the only country to state that the sheets *must* meet the requirements laid down in the Annex of the directive. This leads

The more insistent Dutch enforcement style can be explained by the strict interpretation of the status of the Annex of the directive.

to the interpretation amongst inspectors that the Annex is compulsory and not a mere guide. This thus explains the more legalistic attitude of Dutch environmental inspectors when enforcing the safety data sheets directive.

The reason why some agencies are not heavily involved in the enforcement of the SDS directive can also be situated in the transposition. The reason why the Dutch labour inspectorate does no longer enforce the topic of safety data sheets can partly be found in the Dutch decree that transposed the SDS directive which falls under the ‘Hazardous Substances Act’ and not under the ‘Working Conditions Act’. During regular inspections the labour inspectorate mostly focuses on the ‘Working Conditions Act’ and its underlying decrees. The few

aspects for which they are also responsible besides this main piece of occupational safety and health legislation, such as the SDS decree, tend to be checked to a lesser extent. This same reason applies to the ‘Berufsgenossenschaften’ in Germany. The SDS directive is transposed into federal legislation. This agency does check federal legislation, but to a lesser extent than it enforces its own legislation.

c) Overall influence of the ‘transposition’

General speaking, the transposition forms the main explanation why in relation to Seveso II there are more differences between countries than in relation to safety data sheets. Because of the nature and the saliency of the directive, the Seveso II transpositions are very different in the four Member States. They therefore explain why there are many differences between these four countries in enforcement and compliance practices. The safety data sheets directive is more similarly transposed and therefore does not lead to large differences between Member States. The transposition thus explains why there are more differences between the *Member States* in compliance costs related to the Seveso II directive while there are more differences between *companies* in relation to SDS compliance costs. When transposing Seveso II, Member States to a different extent added extra requirements thus resulting in different sorts of compliance costs per country.

Because all Member States differently transposed the Seveso II directive, companies in all four countries complained about their inability to formulate international formats to make a safety report. Larger multinationals with sites in different Member States complained that it cost them extra money to formulate different safety report formats focused on the different national requirements in each country. Therefore, Seveso II companies have less contact with sister companies abroad than SDS companies have since the requirements are so different. SDS requirements are (almost) the same in all Member States and therefore it is more logical to contact sister companies related to the topic of safety data sheets.

9.4 National enforcement and compliance instruments

9.4.1 *The Seveso II directive*

In general, all four Member States – some more than others – set up tools for inspectors to help them in the enforcement of the Seveso II directive. Tools for companies to help them to comply with the Seveso II directive are not available in all Member States.

Besides some general leaflets explaining the requirements, the two most important Dutch tools for inspectors are the ‘RIB’³¹ – which in 130 pages especially pays attention to the safety report – and the intensive inspection tool ‘AVRIM 2’. The ‘RIB’ is meant for both inspectors and companies: inspectors use it for the assessment and companies can use it as a guideline to write the safety report. Both the ‘RIB’ and ‘AVRIM 2’ in detail focus on scenarios that companies have to write in their safety reports. Besides the ‘RIB’, Dutch companies were able to use two computer programmes: one to calculate whether a company falls under the Seveso II directive (SERIDA) and one to perform the risk analysis for environmental risks to surface water (PROTEUS).

In Germany, on federal level, there are two commissions responsible for advice on the enforcement of the Seveso II directive and they produce guidance in this area: the ‘Hazardous Incident Commission’ (‘Störfallkommission’) and the ‘Technical Commission for Installation Safety’ (‘Technische Ausschuss für Anlagensicherheit’). Both commissions develop quite some papers that advice both operators and authorities with respect to special questions. There, for

example, are papers on major accident prevention policy, safety management systems, the safety report and inspections. The length of these papers varies from 25 to 80 pages. These instruments are available on the Internet and are easy to obtain for both authorities and companies.³² A few German interviewees complained that these guidance documents are too broad and vague and hard to use for inspectors. They claim that the Länder are still forced to make their own, more specialised, guidance. Therefore, there are also some examples of assessment and inspection tools within the Länder. North-Rhine Westphalia, for example, has its 'Safety Management Valuation Program' and local agencies have their own inspection tools. Baden-Württemberg has a standardised inspection form and an assessment tool is being developed. Bavaria has its own guidance on how to execute Seveso II inspections.

Within Great Britain, the competent authority set up quite some instruments for inspectors, the most important one being the 'Safety Report Assessment Manual' (SRAM) of 600 pages. It is a detailed guide for inspectors to use when assessing a safety report. There is also a company version on how to make a safety report, but in practice British upper tier establishments use the SRAM when writing their safety reports. As in the Netherlands, companies could also use a tool to check whether they would fall under the scope of the directive. Besides, the inspectors can use two specific assessment manuals for LPG and Chlorine installations. Finally, both inspectors and companies can use an environmental guideline for the environmental risk assessment. All British instruments are to a large extent focused on the writing and the assessment of the safety report.

In Spain, the national government set up one guideline under Seveso I related to external emergency planning.³³ There is no new version of this guideline available yet for the Seveso II directive. Besides this national guideline on emergency planning, the Autonomous Communities did not develop any guidance in relation to the assessment of the safety report. One of the private inspection agencies, ECA, established an inspection instrument for its own inspectors. There are a few Spanish guidelines for companies on how to comply with the Seveso II directive – a notification tool, a small leaflet and an explanation of Annex I of the directive – but the Spanish companies hardly use these. There is no tool to help companies write their safety report.

Table 9.5: National Seveso II instruments

	NL	D	GB	E
Most important instruments?	RIB (assessment tool + help to make report for companies). AVRIM 2 (inspection tool). Serida, Proteus for companies.	Many instruments on national level and each Land set up its own instruments. NRW: assessment tool / local inspection tools. BW: standard inspection form. BAV: inspection guidance.	SRAM (assessment tool + help for companies to make report). 2 specific assessment manuals (LPG & Chlorine). Environmental risk assessment tool. Notification tool for companies.	National instrument for external emergency planning. Inspection tool in ECA. Some small guidelines for companies.
Level of detail?	RIB: 130 pages. Very detailed interpretation of scenarios. AVRIM 2: intensive inspection method.	National instruments are broad. Länder instruments are slightly more detailed than EU and national legislation.	Especially the SRAM is very detailed with more than 600 pages and many checklists. Environmental tool: 86 pages.	Detailed in relation to external emergency planning: 50 pages.
Status of the instruments?	Not compulsory (however, strong urge to use it for inspectors and companies must, if they do not use the 'RIB', prove to comply with the rules otherwise).	Not compulsory.	Not compulsory (however, there is a strong urge to use the SRAM)	Not compulsory.

Even though all four Member States developed guidance, there are obvious differences between them. The detailed tools to assess a safety report in the Netherlands and Great Britain definitely form a part of the explanation why the Dutch and British assessment styles can be characterised as 'legalistic'. The existence of these tools shows that the safety report is the most important part of

The detailed assessment tools available in the Netherlands and Great Britain partly explain the legalistic assessment style in these countries.

the Seveso II directive for these two countries and therefore explains their legalistic assessment style. Almost all inspectors indicated to actually use these tools when assessing a safety report and the level of detail of these tools explains why the assessments are so thorough and extensive in these two Member States. In Germany there is some guidance material available for the assessment of the safety report, but this is rather general and different in all Länder. In none of the Länder there was a tool as detailed as the Dutch and British ones available at the time of conducting this research. This might be explained by the late transposition and may be different in the future; at least Baden-Württemberg was working on an assessment tool. In Spain there is no assessment tool at all. There is only one guideline on external emer-

gency planning. In Spain, the aspect of external emergency planning is more important than the aspect of the safety report is. The absence of detailed assessment tools forms an explanation for the more lenient German and Spanish assessment styles. Of the four Member States, the Netherlands has the most detailed inspection tool for its inspectors. The ‘AVRIM 2’ method is detailed and extensive and inspectors who use it are forced to spend much time on the inspection of a Seveso II upper tier establishment. This partly explains why the Dutch inspection style is legalistic.

The existence of the Dutch ‘RIB’ and the British ‘SRAM’ also partly explain the heavy workload companies in these countries have when writing a safety report. In the Netherlands, companies have a high workload because of the detailed manner in which they have to describe their scenarios according to the ‘RIB’. Also the heavy focus on scenarios in the Dutch ‘AVRIM 2’ inspection method explains why Dutch companies have much work to write their scenarios in the safety report. Companies in both countries indicate to actually use these guidelines when writing the report. They are not officially obliged to use them, but – in both countries – companies indicate that they do feel obliged to use the guideline available. As one Dutch company put it: *“It is easy to say for the government that we are not obliged to use the RIB, but our inspector already told us that he will only assess our safety report when we write it as described in the RIB.”* Sort-like comments were heard from British companies on the ‘SRAM’. The usage of detailed guidelines as the ‘RIB’ and the ‘SRAM’ might explain the higher workload and compliance costs compared to Spanish companies that do not use a guideline at all.

These detailed tools also explain the higher compliance costs of Dutch and British companies when writing the safety report.

9.4.2 *The safety data sheets directive*

In all four Member States there is – at least some – form of guidance available for inspectors to help them how to inspect the compliance with the safety data sheets directive and for companies to help them how to compile the sheets. Only Spanish companies do not have guidance available to help them to compile the sheets.

In the Netherlands, the labour inspectorate has a small checklist available for its inspectors and set up a guidance document for companies on how to compile the sheets. Dutch companies hardly ever use this document, however, since they are of the impression that the labour inspectorate was too late with the guidance. The environmental inspectorate has one extensive guidance document – 60 pages and 86 possible questions to ask companies related to safety data sheets – available that was made by the external consultant agency ‘Haskoning’: ‘Guideline Inspection Safety Data Sheets’. Besides, environmental inspectors all use a detailed and compulsory enforcement method: ‘Enforcement Execution Method’. This method in six steps prescribes how inspectors should execute their inspections and what sort of infringements they should tackle with what sort of sanctioning instruments.

In Germany, there is one national instrument available for both inspectors and companies: ‘Technical Rules for Hazardous Substances 220 – Safety Data Sheet for Hazardous Substances and Preparations’. Companies hardly use this national guideline; they more often look into the EU directive itself for help to compile the sheets. Inspectors in Baden-Württemberg and Bavaria can also use a small checklist, which was set up for their special projects.

Table 9.6: National SDS instruments

	NL	D	GB	E
Most important instruments?	Checklist labour inspectorate. Enforcement method + guideline environmental inspectorate. Guidance/brochure for companies.	National guideline. Small checklists in BW and BAV.	National guideline. Some small leaflets for companies.	Checklist in Madrid and guideline (that includes a checklist) in Andalucia.
Level of detail?	Labour inspectors (checklist): 4 pages, about 50 questions. Environmental inspectors: (method) 14 pages with 6 steps+ guideline) 60 pages with 86 questions. Company guidance: 12 pages.	National guideline: 30 pages. Two checklists very small (2 pages, about 25 questions).	National guideline: 14 pages. Leaflets are small and general.	MAD (checklist): 4 pages. AND (guideline): 15 pages.
Status of the instruments?	Checklist and guideline not compulsory. Enforcement method is compulsory. Company guideline not compulsory.	Not compulsory for inspectors. Companies must, if they do not use it, prove to comply with the rules otherwise.	Leaflets are not compulsory. National guideline is not compulsory for inspectors and companies must, if they do not use it, prove to comply with the rules otherwise.	Not compulsory.

In Great Britain, the national government established the 'Approved Code of Practice on safety data sheets for substances and preparations for supply'. The inspectors of the northern region project used it while executing inspections during the project. This code is also meant for companies as guidance on how to compile the sheets. Besides, there are many small leaflets for companies to explain the idea behind and the requirements within the safety data sheets directive. British companies use this guidance material rather extensively.

As said, Spanish companies do not have any guidance material available. Inspectors in Madrid and Andalucia – the two Autonomous Communities with active enforcement of the SDS directive – have checklists and guidance material available for its inspectors.

Inspectors in all four Member States can thus use at least some sort of guidance while executing the safety data sheets inspections. In all cases checklists are available of comparable size and level of detail. Only in the Netherlands and Germany there is one guidance document that is somewhat more extensive. In three of the four Member States, inspectors are free to decide whether or not to use the guidance documents available. In the Netherlands, however, environmental inspectors are obliged to use the enforcement execution method. This

method is rather detailed and prescribes precisely how inspectors should execute inspections and what sanctions inspectors should use for what infringements. The inspectors indicate that there is some freedom in using this method – in some cases inspectors can decide to deviate from the method after consultation of the project leader – but generally speaking the Dutch environmental inspectors follow this enforcement and sanctioning manual. The availability, level of detail and status of this method forms a part of the explanation of why Dutch inspectors show a more persuasive intensity of inspections and adopt an insistent – almost legalistic – sanctioning approach. Compared to the guidance material available for inspectors related to the Seveso II directive, the guidance for SDS is smaller and less detailed. This might form a part of the explanation why the Seveso II enforcement style generally speaking is more insistent than the SDS enforcement style.

The compulsory enforcement method of Dutch environmental inspectors explains their insistent enforcement approach.

The usage of guidance by companies is the largest in companies that only produce a few sheets. The companies that produce many sheets are less in need of guidance material since they usually have employees with more expertise on this subject available. It might be problematic that there is no guidance document available for Spanish companies, since the Spanish chemical industry consists of many small and medium sized enterprises that usually have less expertise available. However, in the case of safety data sheets, the availability of national guidance for companies is less important since the European SDS directive is suitable to use as guidance itself. The Annex of the directive offers a good explanation of what a sheet should look like and many questionnaire respondents also indicate to actually use the directive itself as guidance.

9.5 National sanctioning instruments

The sanctioning possibilities available within the Member States are rather comparable. In all cases, inspectors have similar rights such as the right to visit all places, the right to take samples, the right to impose warnings or fines and, eventually, the right to prosecute or close down a company. The types of warnings and fines might have different names within the different countries. Whereas Great Britain names its main instruments ‘improvement’ or ‘prohibition notices’, the Netherlands speaks of administrative fines and warrants. Eventually, there are not many differences between the four countries – or between both directives – in the sanctioning instruments available to inspectors. The sort of sanctioning instruments therefore does not explain the small difference between the two directives in sanctioning practices. The sort and availability of sanctioning instruments cannot explain the impression that inspectors sanction slightly more for SDS-related infringement than for Seveso II-related infringements. The explanation for this difference must be found in the nature of both directives (see section 9.2.3).

National sanctioning instruments do not explain the slight difference in sanctioning practices between the Seveso II and SDS directives.

In the case of the safety data sheets directive the Dutch inspectors show a slightly more insistent sanctioning approach compared to inspectors in the three other Member States. An explanation for this might be that a manual, the ‘Enforcement Execution Method, decides for Dutch inspectors where and when to impose a sanction. Such a formalised procedure might

lead to a more legalistic enforcement style compared to the other countries where the sanctioning practice is less formalised.

The existence of a sanctioning manual might explain why Dutch inspectors show a slightly more insistent sanctioning approach

9.6 Conclusion: the impact of the ‘legal design’

This chapter shows that many elements related to the ‘legal design’ – especially the nature of the directives and their transposition – have an impact on the enforcement and compliance practices. Only the availability and form of sanctioning instruments does not seem to be influential.

The nature of both directives is different. The Seveso II directive is a minimum directive with many rather vague requirements, whereas the safety data sheets directives is a maximum directive that houses less and more clear obligations. The simple fact that the Seveso II directive entails more requirements for both regulators and regulated forms a part of the explanation why the enforcement of and compliance with this directive leads to more work and thus more costs compared to the smaller SDS directive. The nature of both directives also explains differences in transposition processes. Since the Seveso II directive allows for Member States to add requirements – and some of the obligations are written down rather vaguely – it allows for differences between the countries in how they transpose it. Especially the strict enforcement style in the Netherlands and the high compliance costs for Dutch companies can to a large extent be explained by the transposition of the directive. The government added some requirements related to safety report scenarios that lead to quite some extra work. In Germany and Spain the late transpositions explain why these countries were so late with the creation of their enforcement structures.

The safety data sheets directive is a maximum directive, which explains why there are fewer differences between the four Member States in their transposition of this directive. The slightly different interpretation of the Annex in the Dutch transposition partly explains why the enforcement style can be considered to be somewhat more insistent in the Netherlands. Also the presence of a compulsory enforcement and sanctioning method explains the deviating style in this country.

Notes

- 1 For more information on the variables, see chapter 2, section 2.3.2.
- 2 Exception to this rule: if there are no technical barriers to trade and / or discrimination, the European Commission can allow a Member State to deviate from the norm based on Article 95.
- 3 However, not all aspects within the SDS directive are very precise. Inspectors in all four Member States indicate to mainly focus on headings 2, 8 and 15 since only these few headings are precise enough to check and sanction. Many of the other headings are described too vaguely to check non-compliance.
- 4 Since this research only focuses on the safety report requirements and the inspections, this section only compares the transposition of Articles 9 and 18 and the Annexes I, II and III of the Seveso II directive. For a more complete overview of the national legislation used for the transposition of the Seveso II directive, see Annex II.
- 5 Measured by the date of coming into force of the main piece of national legislation.
- 6 'Directriz Básica para la Elaboración y Homologación de los Planes Especiales del Sector Químico', M-33114/1999, Imprenta Nacional del Boletín Oficial del Estado, 1999.
- 7 'Besluit van 27 mei 1999 tot vaststelling van het Besluit risico's zware ongevallen 1999 en tot herziening van enkele andere besluiten in verband met de uitvoering van Richtlijn nr. 96/82/EG van de Raad van de Europese Unie van 9 december 1996 betreffende de beheersing van de gevaren van zware ongevallen waarbij gevaarlijke stoffen zijn betrokken', Staatsblad 1999, 234.
- 8 'Bundes-Immissionsschutzgesetz in der Fassung der Bekanntmachung vom 14. Mai 1990 (BGBl. I S. 880), zuletzt geändert durch Artikel 3 des Gesetzes vom 27. Dezember 2000 (BGBl. I S. 2048)'.
- 9 'The Control of Major Accident Hazards Regulations 1999', Statutory Instrument 1999 No. 743.
- 10 'Real Decreto 1254/1999, de 16 de julio, por el que se aprueban medidas de control de los riesgos inherentes a los accidentes graves en los que intervengan sustancias peligrosas', BOE núm. 172.
- 11 The federal government transposed the aspect of internal emergency plans since the federal government is responsible for all legislation related to the operator.
- 12 This period of six months can once be extended with an extra period of three months.
- 13 The ministerial order even further specifies the need to focus on surface water and perform an 'Environmental Risk Assessment'.
- 14 For a description of the QRA, see chapter 4, section 4.2.1.
- 15 'Regeling risico's zware ongevallen 1999', Staatscourant 1999, nr. 133.
- 16 CPR 20 – Rapport Informatie-Eisen BRZO '99. Sdu Uitgevers: Den Haag, 1999.
- 17 For example 'Law 2/1985' and 'Royal Decree 1378/85' on civil protection in general and emergency cases in specific.
- 18 In all three Länder, the ministry with 'environment' in its portfolio was responsible for transposing the two aspects for which the Länder are responsible. The names of, and other topics regulated by, these ministries differ, however. In North-Rhine Westphalia the environmental aspects are integrated in the 'State Ministry for Environment and Nature Conservation, Agriculture and Consumer Protection' ('Ministerium für Umwelt und Naturschutz, Landwirtschaft und Verbraucherschutz des Landes NRW'). In Baden-Württemberg, the environment is combined with transport: 'Ministry for the Environment and Transport' ('Ministerium für Umwelt und Verkehr'). In Bavaria, envi-

- ronmental aspects are arranged by the 'State Ministry for Land Development and Environmental Affairs' ('Staatsministerium für Landesentwicklung und Umweltfragen').
- 19 For the enactment of the Royal Decree, each Autonomous Community has its own responsible authorities. Each Autonomous Community has its own government ('consejo de gobierno') and parliament ('asamblea regional'). These governments are subdivided into different 'ministries' which are responsible for different topics such as environment, health, economy, etc. The names for these 'ministries' differ per Autonomous Community. In Valencia they are called 'conselleria', in Madrid 'consejería' and in Catalonia 'departament'. The ministries responsible for the enactment of the Royal Decree differ per region. In Catalonia, there is a combined competent authority of the 'Ministry of Industry, Trade and Tourism' ('Departament d'Indústria, Comerç i Turisme') and the 'Ministry of the Interior' ('Departament d'Interior'); in Valencia, the competent authority is formed by three ministries, namely the 'Ministry of Justice and Public Administration' ('Consejería de Justicia y Administraciones Públicas'), the 'Ministry of Industry and Trade' ('Consejería de Industria y Comercio') and the 'Ministry of the Environment' ('Consejería de Medio Ambiente'); in Madrid, finally, the 'Ministry of Economics and Employment' ('Consejería de Economía y Empleo') and the 'Ministry of Justice, Public Function and Local Administration' ('Consejería de Justicia, Función Pública y Administración Local') are responsible for writing the regional Decree to enact the Royal Decree.
 - 20 For a more complete overview of the national legislation used for the transposition of the SDS directive, see Annex III.
 - 21 Measured by the date of coming into force of the main piece of national legislation.
 - 22 'Besluit van 29 april 1993 van de Minister van Sociale Zaken en Werkgelegenheid, tot vaststelling van nieuwe regels inzake het verstrekken van veiligheidsinformatiebladen aan beroepsmatige gebruikers van gevaarlijke stoffen en preparaten (Veiligheidsinformatiebladenbesluit Wet milieugevaarlijke stoffen)', Staatsblad 1993, 252.
 - 23 'Verordnung zum Schutz vor gefährlichen Stoffen (Gefahrstoffverordnung – GefStoffV)'.
 - 24 'The Chemicals (Hazard Information and Packaging for Supply) Regulations 1994', Statutory Instrument 1994 No. 3247.
 - 25 'Real Decreto 1078/1993, de 2 de julio, por el que se aprueba el reglamento sobre clasificación, envasado y etiquetado de preparados peligrosos', BOE núm. 216.
 - 26 'Technische Regeln für Gefahrstoffe (TRGS 220) – Sicherheitsdatenblatt für gefährliche Stoffe und Zubereitungen'.
 - 27 Approved Code of Practice L62, Her Majesty's Stationary Office, 1993.
 - 28 After the approval of the directive on European level, three Dutch ministries competed for the responsibilities with respect to the safety data sheets directive. The three ministries involved were the following: the 'Ministry of Housing, Spatial Planning and the Environment', the 'Ministry of Health, Welfare and Sport' and the 'Ministry of Social Affairs and Employment'. All three ministries had their own reasons to be involved and their own explanations of why they should be the transposing ministry. The SDS directive has close ties with two other EU directives: the 'substances' directive (67/548/EEC) and the 'preparations' directive (88/379/EEC). Since different ministries in the Netherlands regulate these two directives, multiple parties competed for the overall responsibility. The environmental ministry wanted to be responsible because it is the Dutch ministry responsible for the substances directive; the health ministry claimed

responsibility because of its involvement with the preparations directive and the social affairs ministry was involved because it is responsible for occupational safety and health. A few discussions finally led to the decision to make the 'Ministry of Social Affairs' the responsible ministry. Again, as was the case with the Seveso II directive, this research confirms the description of the Dutch transposition process in general in chapter one. It indeed seems to be the case that a difficult co-operation between ministries is more often rule than exception.

- 29 Now this department is called 'Department of the Environment, Food and Rural Affairs'.
- 30 An interviewee from Andalusia gave another explanation for the absence of comments as well. This person mentioned that the Autonomous Communities were at the time of the transposition not yet able to comment since the Communities did not yet have any experience in this policy area. There were no people available that could comment on the transposition. Besides, according to an interviewee in Valencia, the national government did not even ask the Autonomous Communities for comments on the draft. Valencia did not have any comments, but finds it incorrect that they were not given the opportunity to comment at all. Both Valencia and Andalusia did have some comment on the additional requirement that companies have to send a copy of their sheets to the national health ministry. Representatives from these two Communities find that some companies have different versions of their sheets. The version they send to the ministry and the version they use for commercial ends. Companies just have to send a copy to the ministry, not to the Autonomous Communities. The interviewees think it would be a better system if the sheets were sent to the 17 Autonomous Communities. They could use the sheets for their enforcement.
- 31 'Rapport Informatie-eisen BRZO 1999'; 'Report Information-Demands Major Accident Hazards Decree 1999'.
- 32 <http://www.sfk-taa.de>
- 33 'Directriz Básica para la Elaboración y Homologación de los Planes Especiales del Sector Químico', M-33114/1999, Imprenta Nacional del Boletín Oficial del Estado, 1999.

Chapter 10

Organisational structure

10.1 Introduction

The organisational structure first of all refers to the agencies that enforce the directives. There are a number of characteristics of the agencies that might influence their enforcement styles.

- 1) Size of the agency.¹
- 2) Tradition in the enforcement of legislation: how long does the agency already enforce legislation?
- 3) Sort of actor: governmental, connected to government, or private.
- 4) Number of regional offices.
- 5) Internal centralisation.²
- 6) Forms of specialisation :
 - by region or by function
 - by company or by rule
 - by enforcement or by other tasks

The network of agencies that jointly enforce a directive form the enforcement system of a country. There are a number of aspects related to this system that might affect the enforcement style and / or compliance practice.

- 1) Number of enforcement agencies.
- 2) Policy areas represented: environmental, occupational safety and health, interior affairs (e.g. emergency planning, land-use planning or civil protection), consumer or industrial policy.
- 3) Clear division of responsibilities between the agencies. There is a clear division when, for example in the case of Seveso II, one agency is responsible for the assessment of the safety report and another agency for the inspections. The division is less clear when multiple agencies are responsible for the same tasks and there are no agreements on who checks what.
- 4) Extent to which agencies are expected to co-operate and potential difficulties related to this. Is this co-operation likely to be complicated or not? This depends on a number of aspects related to the agencies involved as described above. The need for co-operation between different types of agencies might lead to difficulties. As well, an unclear division of responsibilities or the involvement of agencies representing many different policy areas might make co-operation more complicated. Thus the potential difficulties are considered high when agencies are expected to co-operate but are organised differently, represent different policy areas and show an unclear division of responsibilities.
- 5) Potential competition between agencies. There is potentially high competition when agencies are not expected to co-operate and have to compete for orders by companies to execute the inspections and / or assessment. There is potentially low competition when agencies are expected to co-operate and show a clear division of responsibilities and no difficulties in co-operation.³

10.2 Seveso II enforcement agencies

10.2.1 *The Netherlands*

In the Netherlands three agencies are responsible for the enforcement of the Seveso II directive: the 'Environmental Authority' (EA), the 'Labour Inspectorate' (LI) and the 'Fire Brigade' (FB).

Table 10.1: Seveso II enforcement agencies in the Netherlands

	EA	LI	FB
Size agency: large (L), medium (M) or small (S).	L	M	L
Long tradition: yes (Y) or no (N).	Y	Y	N
Sort of actor: governmental (G), connected to government (C) or private (P).	G	C	C
Number of regional offices.	12 provinces 496 municipalities	6	39 regions 496 municipalities
Internal centralisation: low (L), medium (M) or high (H).	L	H	L
Specialisation by territory (T) or by function (F).	T	F	F
Specialisation by rule (R) or by company (C)?	R	R	R
Enforcement as core job: yes (Y) or no (N)?	Y	Y	N
Tasks for Seveso II: inspections (I), assessment (A) or both (B).	B	B	B

The above table on the three Dutch enforcement agencies shows that the three agencies involved differ considerably. All three show a long tradition in general. The labour inspectorate already exists since 1890 and environmental authorities and fire brigades also already exist for a long time. The city The Hague, for example, already has a fire brigade since 1688. However, one of the three agencies only recently has the task to enforce legislation. The fire brigade has less experience with the enforcement of legislation than the environmental authorities and the labour inspectorate have. The main tasks of fire brigades originally lie in repression, preparation and prevention of fires and less in the enforcement of legislation. Besides, the fire brigade was not involved in the enforcement of the first Seveso directive and therefore this agency does not have a long tradition in the enforcement of this particular piece of legislation. Fire brigade inspectors generally speaking have less experience and expertise than the environmental and labour inspectors have.

The main difference between the labour inspectorate on the one hand and the environmental authorities and the fire brigades on the other hand is the high internal centralisation and the division into only six regional offices of the labour inspectorate. The environmental authorities are divided over twelve provinces and 496 municipalities that all have their own environmental department. As well, almost all 496 municipalities have their own fire brigade.

These municipal fire brigades co-operate in 39 larger regions in order to be able to execute some tasks more efficiently and to be able to co-operate during major municipality-border exceeding incidents and disasters. Because the environmental authorities and fire brigades are all organised independently – there is no high internal centralisation, no steering by their ministries – there are quite some differences between the different regions. The labour inspectorate, on the contrary, is a part of the ‘Ministry of Social Affairs and Employment’ and is, as said, centrally organised. It is divided into six regional offices, but each region works according to the same national projects. For the enforcement of Seveso II, one inspector is appointed to co-ordinate all major hazard specialists within the labour inspectorate. Every two months all 25 inspectors meet to discuss their working-procedures. Therefore, the enforcement approach of labour inspectors is rather uniform across the country. The opposite can be said of environmental and fire brigade inspectors. They are divided into many regional offices and there hardly is any central co-ordination.⁴ This explains the existence of differences between the various provinces and municipalities in the enforcement of the Seveso II directive in the Netherlands. Smaller municipalities may show difficulties in the enforcement of this topic; often they have less expertise and resources available.

The involvement of agencies with different types of organisations divided into different regional offices explains the existence of differences in enforcement practices within different parts of the Netherlands.

The main reason why there is a difference between the three Dutch agencies in the amount of advice they give during the enforcement of the Seveso II directive – environmental and fire brigade inspectors give more advice than labour inspectors do – can be found in the policy of the labour inspectorate. Inspectors, according to company policy, are not allowed to advise companies on their compliance. This function has been withdrawn: the task of labour inspectors is to assess, inspect and enforce and not to help companies in complying with legislation. Despite this company policy, half of the labour inspectors do claim to advise companies on Seveso II. One inspector answered the question on the giving of advice with ‘no’ according to labour inspectorate policy, but ‘yes’ according to the daily enforcement practice. Some inspectors claimed that the job is impossible without advising companies every once in a while.

10.2.2 *Germany*

In all three Länder two enforcement agencies are responsible for the enforcement of the Seveso II directive. In North-Rhine Westphalia the ‘Regional Environment Agencies’ (EA) and ‘Regional Labour Protection Agencies’ (LPA) are involved and in both Baden-Württemberg and Bavaria the ‘Environmental Authority’ (EA) and the ‘Factory Inspectorate’ (FI) execute the enforcement.

Table 10.2: *Seveso II enforcement agencies in Germany*

	NRW		BW		BAV	
	EA	LPA	EA	LPA	EA	LPA
Size agency: large (L), medium (M) or small (S).	L	L	L	L	L	M
Long tradition: yes (Y) or no (N).	Y	Y	Y	Y	Y	Y
Sort of actor: governmental (G), connected to government (C), private (P).	C	C	G	C	G	C
Number of regional offices.	12	12	4 reg. gov. 44 local authorities	9	7 reg. gov. 96 local authorities	8
Internal centralisation: low (L), medium (M) or high (H).	M	M	L	M	L	M
Specialisation by territory (T) or by function (F).	F	F	T	F	T	F
Specialisation by rule (R) or by company (C)?	C	C	R	C	C	C
Enforcement as core job: yes (Y) or no (N)?	Y	Y	Y	Y	Y	Y
Tasks for Seveso II: inspections (I), assessment (A) or both (B).	B	B	A	differs: I or B	B	B

In North-Rhine Westphalia the enforcement of the Seveso II directive is in the hands of two similar enforcement agencies: environment agencies and labour protection agencies. The two agencies only exist since 1975. Before this time, North-Rhine Westphalia had a system in which environmental and labour protection was dealt with in one ministry and also within one enforcement agency: the factory inspectorate. Both areas were separated in 1975 because of political reasons. Both agencies are divided into twelve regional offices. Although the cities in which these regional offices are located do not always correspond, the borders of the twelve regions are more or less the same for both agencies. Both agencies fall under the regional governments of which there are five in North-Rhine Westphalia. In both cases there is some co-ordination between the twelve regional offices, but eventually they are independently responsible for their own enforcement. In both cases it is thus possible that there are twelve different enforcement structures. Inspectors from both agencies are responsible for geographical areas. This means that they are assigned to a number of companies and have to check all legislation their agency is responsible for within their own companies. Besides a focus on different policy areas, both agencies show a similar organisation.

As opposed to the situation in North-Rhine Westphalia, Baden-Württemberg shows the involvement of two completely different agencies: the environmental authority and the factory inspectorate. The environmental authorities are governmental agencies with a low internal centralisation whereas the factory inspectorate is connected to the government and shows a medium internal centralisation. The environmental authorities are specialised by territory, but check the compliance by rule whereas the factory inspectorate is specialised by function but inspects by company.

Baden-Württemberg is divided into four regional governments and 44 local authorities, which all have their own environmental department. These departments form the environmental authorities responsible for the Seveso II enforcement. Each of the four regional governments is responsible for two or three offices of the factory inspectorate that in total has nine offices. Inspectors in all nine regional offices have competencies in the areas of environmental-, labour- and consumer protection. Inspectors are not divided per discipline, though. All companies in Baden-Württemberg are divided into branches, e.g. chemical industry, metal, construction, electrotechnique. Inspectors are divided over these branches and are responsible for all legislation the factory inspectorate is responsible within their own set of companies. For example, an inspector in the branch 'chemical industry' is only responsible for a group of chemical companies and this inspector enforces all legislation the factory inspectorate is responsible for in these companies.

Bavaria, finally, appointed the same sort of agencies as Baden-Württemberg: environmental authorities and the factory inspectorate. Thus here as well the two agencies involved show a completely different structure. In Bavaria the environmental inspectors are divided over the environmental departments of seven regional governments and 96 local authorities. The environmental inspectors working for these governmental bodies are responsible for the enforcement of all environmental legislation within a number of companies in a geographical area. Unlike the factory inspectorate in Baden-Württemberg – which is responsible for both environmental and occupational safety and health legislation – the Bavarian factory inspectors are only responsible for the enforcement of occupational safety and health legislation. In Bavaria, the regions of the factory inspectorate correspond with the regions of the regional governments, except in Oberbayern where two factory inspectorates are located. This brings the total of offices to eight in Bavaria. As the environmental inspectors, the factory inspectors are responsible for a number of companies in a geographical area. They enforce all occupational safety and health legislation within 'their' companies.

The three German Länder have in common that they use enforcement agencies divided into a number of regional offices, that only show a low or medium internal centralisation.

The German custom to use enforcement agencies with a low or medium internal centralisation explains the existence of differences between regions within the Länder.

This allows for differences between the regional offices to exist and thus explains the situation in which – besides the differences between the Länder – there are possible differences between regions within the Länder as well.

10.2.3 Great Britain

In Great Britain two agencies enforce of the Seveso II directive: the 'Health and Safety Executive' (HSE) and the 'Environment Agency' (EA).⁵

The 'Health and Safety Executive' is – via the Health and Safety Commission – responsible for the regulation and enforcement of all occupational safety and health legislation in Great Britain. The HSE is in charge of inspecting workplaces, investigating accidents and cases of ill health, advising people how to comply with the law, publicising guidance and advice, providing information and carrying out research. The HSE is divided into numerous divisions and directorates. For example the 'Directorate of Science and Technology', the 'Health and Safety Laboratory', the 'Policy Unit' and the 'HSE Information Services'. Three of these divi-

sions mainly carry out the enforcement tasks of the HSE:

- ‘Field Operations Directorate’: focuses on factories, construction, quarries, services and railways.
- ‘Nuclear Safety Directorate’: focuses on nuclear power stations and processing plants.
- ‘Hazardous Installations Directorate’ (HID): focuses on offshore oil installations, on-shore chemical manufacturing, gas supply and mines.

The last directorate, HID, was set up in 1996 with the main purpose to ensure that the transposition and enforcement of the Seveso II directive would be dealt with in an adequate manner.⁶ The British government, in time,

thought the whole process of transposition and enforcement would take much time and anticipated by setting up this new division. One of the reasons why the British government

The setting up of a new department within the HSE for Seveso II stimulated a legalistic inspection style in Great Britain.

decided to charge companies for the assessment of the safety report and the inspections is that the HSE wanted to get something in return for setting up this complete new division. The establishment of this new division might form a part of the explanation why the British inspectors show a rather insistent enforcement style. Because of the effort the HSE put into establishing this new department, the inspectors are rather thoroughly checked by their own management whether and to what extent they actually enforce the Seveso II directive. This results in a rather intensive enforcement and thus insistent enforcement style. Each inspector within the HID is responsible for its own set of companies and enforces all occupational safety and health legislation – thus not only the Seveso II directive – within these major hazard companies.

Table 10.3: Seveso II enforcement agencies in Great Britain

	HSE	EA
HSE EA Size agency: large (L), medium (M) or small (S).	L	L
Long tradition: yes (Y) or no (N).	Y	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	C	C
Number of regional offices.	7	8
Internal centralisation: low (L), medium (M) or high (H).	H	H
Specialisation by territory (T) or by function (F).	F	F
Specialisation by rule (R) or by company (C)?	C	C
Enforcement as core job: yes (Y) or no (N)?	Y	Y
Tasks for Seveso II: inspections (I), assessment (A) or both (B).	B	B

The ‘Environment Agency’ is responsible for making and enforcing environmental policy, especially pollution control, waste regulation, the management of water resources, flood defence, fisheries, conservation and navigation. The EA is divided into eight regional offices, each responsible for its own geographical area of England and Wales. There are seven regions in England and Wales is the eighth region. Each regional office consists of three parts:

- 1) Pollution Inspectorate.

- 2) Waste Disposal Inspectorate.
- 3) National River Authority.

A small part of the ‘Pollution Inspectorate’ is formed by the ‘Process Industries Regulators’, who are amongst others responsible for the enforcement of Seveso II. These inspectors are responsible for a number of companies in a geographical area and they enforce all environmental legislation within these companies.

The two agencies that are appointed in Great Britain to enforce the Seveso II directive are thus similar. They are responsible for different topics but they both are rather large organisations with a long tradition; there already were British environmental and labour inspectorates in the 19th century. They are divided into only a few regional offices, have a high internal centralisation and inspectors are responsible for all legislation within their own companies. Both agencies are considered to be ‘independent governmental agencies’. This means that they are still connected to the government but are independently responsible for making and implementing environmental and occupational safety and health legislation. In the end the minister responsible for the topic of legislation always signs the legislation – and parliament can pray against it – but in practice the EA and HSE make the British environmental and occupational safety and health legislation. Besides their responsibility for the enforcement, these agencies were thus responsible for the transposition of the Seveso II directive as well. The high internal centralisation of both agencies explains the rather uniform approach within Great Britain towards the enforcement of the Seveso II directive. Because of the high internal centralisation ideas such as the ‘lead unit system’ work in practice and therefore the enforcement in different parts of the country shows a similar structure.⁷

The usage of two similar enforcement agencies with a high internal centralisation explains the uniform enforcement approach within Great Britain.

There is only one slight difference between both agencies. The environmental inspectors were not involved in the enforcement of the first Seveso directive; they only became responsible for the enforcement under Seveso II. Therefore – as both inspectors and companies indicate – HSE inspectors are more experienced and have more expertise than EA inspectors and, as companies claim, therefore HSE inspectors are more focused on details than the environmental inspectors are.

10.2.4 Spain

a) Catalonia

As the description of the Catalan enforcement structure in chapter three showed, the regional ministries appointed as the competent authority do not execute the enforcement themselves. Instead, Catalonia appointed three private assessment bodies and two private inspection agencies. The three bodies that can execute the assessment of the Catalan safety reports are TNO, INERIS and IQS. TNO is the institute for ‘applied natural scientific research’ (‘Toegepast Natuurwetenschappelijk Onderzoek’) and is a consultant agency in the Netherlands. It offers advice, research and consultancy to both governments and individual companies. TNO has special divisions, specialised in specific topics: e.g. TNO Labour, TNO Health, TNO Space, TNO Pharma. One division, ‘TNO Industrial Technology’, is, amongst others, working for the Catalan government. One of their main specialisations is to perform the risk analysis that is important for the safety report assessment. INERIS is the ‘National

Institute for the Industrial Environment and Risks' ('Institut National de l'Environnement Industriel et des Risques') in France. This institute was set up in 1990 with the aim to evaluate and prevent the risks related to industrial installations and chemical substances. Besides carrying out national research and advising tasks, it works as a consultant agency for Spanish companies. IQS, finally, is the 'Chemical Institute of Sarrià' ('Institut Químic de Sarrià'). IQS is a part of a chemical university founded in 1916. IQS provides research and advice for governments and private companies on all sorts of chemical issues.

Catalonia chose two foreign assessment bodies since not enough expertise seemed to be available within Spain. The use of foreign assessment agencies compared to Valencia that uses a regional ministry and Madrid that

not yet established an assessment practice seems to explain the small head-start in Catalonia with establishing the assessment structure. In Catalonia, at

The use of foreign agencies resulted in a better-evolved assessment system in Catalonia.

the time of conducting this research, the assessment agencies already were appointed and the first safety reports were ready to be assessed. Valencia and Madrid were still struggling with how to arrange the assessment and were not yet able to start the assessments. Valencia especially seems to be disadvantaged since regional ministries do not have much experience with such assessments. In this case, the use of foreign assessment agencies in Catalonia seems to be an advantage.

The two inspection agencies available in Catalonia are ECA and ICICT. ECA is the 'Collaborating Organisation of the Administration' ('Entidad Colaboradora de la Administración'). It is a large inspection organisation with many local offices in almost all Autonomous Communities in Spain. ECA is accredited to carry out inspections in many areas, such as lifts, power stations, food products and petroleum products. One of their tasks, relevant for the Seveso II directive, is in the area of storage of chemical products and prevention of major accidents. In these areas, the ECA inspectors execute investment projects in new plants and permanent technical evaluations in existing plants. They assess the management systems, provide technical and legal advice, carry out inspections, reviews and audits and study the risk assessments and emergency plans. The second agency in Catalonia is ICICT; 'Catalan Institute of Inspection and Control' ('Institut Català d'Inspecció i Control'). ICICT is a part of a larger organisation in Germany, the 'Technical Monitoring Association' ('Technische Überwachungs Verein', TÜV). The Spanish offices are co-ordinated by the TÜV-headquarters in Cologne. ICICT has four main tasks: 'control of product and installation safety', 'environmental and quality audits', 'labour risks prevention plans' and 'quality controls'. The aspect of Seveso II inspections falls under the task of 'control of product and installation safety'. The prevention of major accidents is an important element of this task.

Table 10.4: *Seveso II enforcement agencies in Catalonia*

	TNO	INERIS	IQS	ECA	ICICT
Size agency: large (L), medium (M) or small (S).	L	M	M	M	L
Long tradition: yes (Y) or no (N).	Y	N	N	N	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	P	P	P	P	P
Number of regional offices.	14 divisions	0	0	± 15	> 300 in 40 countries
Internal centralisation: low (L), medium (M) or high (H).	H	H	H	H	H
Specialisation by territory (T) or by function (F).	F	F	F	F	F
Specialisation by rule (R) or by company (C)?	R	R	R	R	R
Enforcement as core job: yes (Y) or no (N)?	N	N	N	Y	Y
Tasks for Seveso II: inspections (I), assessment (A) or both (B).	A	A	A	I	I

All five Catalan agencies are rather identical in that they do not have a long tradition in the enforcement of legislation (apart from TNO and ICICT that is linked to the German TÜV), are private actors, show a high internal centralisation and organise the enforcement by rule. The main difference between them is that three are responsible for the assessment of the safety report and two for the inspections. Remarkable is that three of the five agencies are foreign or related to a foreign organisation because of a lack of national expertise.

b) Valencia

As was the case in Catalonia, private agencies execute the Seveso II inspections. In Valencia, however, a regional ministry is responsible for the assessment of the safety reports: the regional ministry of 'industry and trade'. It does not have a long experience with such assessments; one assessor alone will execute all safety report assessments.

The inspections are delegated to five private inspection agencies: ECA, ICICT, SGS, ATI-SAE and Cualicontrol.⁸ SGS is the 'General Surveillance Society' ('Société Générale de Surveillance') located in Switzerland. The SGS Group was founded in 1878 and they have over 850 offices in 140 countries. They have services for international trade in agricultural, mineral, petroleum and consumer products and they offer strategy services to the industrial, environmental, logistics and hygiene sectors. The section 'Industrial Services' pays attention to the topic of major accident control. In Spain, this department is responsible for inspections,

assessments and quality. ATISAE is an agency with multiple offices in Spain as well as Argentina, Brazil and Chili. As ICICT, ATISAE is also connected to TÜV, however only for 25%. It is responsible for risk prevention in over 100 companies in Spain. ATISAE is divided into an agriculture division, technical division, quality, safety and environment division, labour risks division and a consultant division. Via its 'quality, safety and environment division' ATISAE is responsible for Seveso inspections. It inspects companies in all Autonomous Communities, except Catalonia. The inspectors are divided according to their specialisation and not per geographical region.

Table 10.5: Seveso II enforcement agencies in Valencia

	Regional ministry of industry	SGS	ATISAE
Size agency: large (L), medium (M) or small (S).	L	L	L
Long tradition: yes (Y) or no (N).	N	Y	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	G	P	P
Number of regional offices.	0	850 in 140 countries	offices in 4 countries
Internal centralisation: low (L), medium (M) or high (H).	H	H	H
Specialisation by territory (T) or by function (F).	T	F	F
Specialisation by rule (R) or by company (C)?	R	R	R
Enforcement as core job: yes (Y) or no (N)?	Y	Y	Y
Tasks for Seveso II: inspections (I), assessment (A) or both (B).	A	I	I

c) Madrid

Madrid, finally, appointed four inspection agencies that can execute the inspections: ATISAE, Cualicontrol, ECA and SGS. Descriptions can be found in the previous sections on Catalonia and Valencia. It is likely that these four agencies, or some of them, will carry out the assessment of the safety report as well. At the time of conducting this research (summer 2001) representatives in Madrid did not yet know what agencies would be used for the assessment; no legislation was yet set up to arrange the formal assessment structures.

10.2.5 Comparison of the Seveso II enforcement agencies

Table 10.6: Comparison of the Seveso II enforcement agencies

	NL	D NRW	BW	BAV	GB	E CAT	VAL	MAD
Size agency: large (L), medium (M) or small (S).	L ₂ , M ₁	L ₂	L ₂	L ₁ , M ₁	L ₂	L ₂ , M ₃	L ₄ , M ₂	L ₄
Long tradition: yes (Y) or no (N).	Y ₂ , N ₁	Y ₂	Y ₂	Y ₂	Y ₂	N ₃ , Y ₂	N ₃ , Y ₃	N ₄
Sort of actor: governmental (G), connected to government (C) or private (P).	G ₁ , C ₂	C ₂	G ₁ , C ₁	G ₁ , C ₁	C ₂	P ₅	G ₁ , P ₅	P ₄
Number of regional offices: many (M) or few (F).	M ₂ , F ₁	F ₂	M ₁ , F ₁	M ₁ , F ₁	F ₂	M ₁ , F ₄	M ₃ , F ₃	M ₃ , F ₁
Internal centralisation: low (L), medium (M) or high (H).	H ₁ , L ₂	M ₂	L ₁ , M ₁	L ₁ , M ₁	H ₂	H ₅	H ₆	H ₄
Specialisation by territory (T) or by function (F).	T ₁ , F ₂	F ₂	T ₁ , F ₁	T ₁ , F ₁	F ₂	F ₅	T ₁ , F ₅	F ₄
Specialisation by rule (R) or by company (C)?	R ₃	C ₂	R ₁ , C ₁	C ₂	C ₂	R ₅	R ₆	R ₄
Enforcement as core job: yes (Y) or no (N)?	Y ₂ , N ₁	Y ₂	Y ₂	Y ₂	Y ₂	Y ₂ , N ₃	Y ₆	Y ₄
Tasks for Seveso II: inspections (I), assessment (A) or both (B).	B ₃	B ₂	A ₁ , I/B ₁	B ₂	B ₂	A ₃ , I ₂	A ₁ , I ₅	B ₄

As the above table on the Seveso II enforcement agencies in the four Member States shows, there are many differences between and within countries in the sort and type of agencies used. There is not one standard sort of organisation that is used to enforce the Seveso II directive. All countries use both large and medium sized agencies for the enforcement. They use agencies that are divided into many regional offices as well as agencies divided into only a few regional offices. Some agencies are specialised by territory whereas others are specialised by function. Some show a high internal centralisation, others show no internal centralisation at all. In some agencies inspectors check a certain type of legislation whereas inspectors in other agencies check all legislation in a couple of companies.

There are many different types of Seveso II enforcement agencies; both between and within Member States.

Especially Spain uses different types of agencies compared to the three other Member States.

Spain uses *private* agencies – sometimes foreign – with a *shorter tradition* (except for the foreign agencies) in the enforcement of legislation and with a focus on the policy domain *industry*. The use of private agencies is mainly stimulated by the absence or low level of experience and expertise within the regional ministries. The agencies in the other three countries more often are governmental agencies – or agencies connected to the government – with a longer tradition in the enforcement of environmental or occupational safety and health policy. The different types of agencies used in Spain explain minor differences in the enforcement styles between Spain and the other countries. With respect to the assessment of the safety report the use of an inexperienced regional ministry in Valencia and the absence of assessment structures in Madrid explain the rather lenient assessment style in Spain. Besides, the types of agencies used explain why in Great Britain it is possible to have a rather uniform enforcement style – only few regional offices and a high internal centralisation – whereas in the other three countries there are more differences between regions (NL), Länder (D) or Autonomous Communities (E).

The types of enforcement agencies explain the slightly more lenient assessment style in Spain. As well, the types of agencies explain why Great Britain shows the most uniform enforcement approach.

Some of the characteristics of the enforcement agencies also explain minor differences *within* countries. In the Netherlands, for example, the difference between the highly centralised labour inspectorate with few regional offices and the environmental authorities and fire brigades divided into many regional offices with a low internal centralisation leads to the existence of small differences between regions in enforcement practices. In Spain the use of private agencies for the assessment of the safety report in Catalonia led to a better evolved assessment system at the time of conducting this research compared to Valencia and Madrid.

10.3 The Seveso II enforcement systems

Table 10.7 on the Seveso II enforcement systems in the four Member States shows that – as was the case with the individual enforcement agencies – there are many differences between the countries in their enforcement systems. The main differences can again be found between Spain on the one hand and the other three countries on the other hand. In Spain, the responsibilities are clearly divided between the enforcement agencies. Some of the agencies are responsible for the assessment of the safety report whereas others are appointed to execute the inspections. The agencies are not expected to co-operate with each other to perform these duties. The agencies have to compete with each other in order to assess the reports (Catalonia, Madrid) or to inspect the companies. In Great Britain the responsibilities are clearly divided as well. There are clear agreements: the environmental inspectors check the environmental aspects and the HSE inspectors enforce the occupational safety and health aspects.

There are many differences between the Seveso II enforcement systems of the four Member States. Especially the Spanish enforcement system deviates.

Table 10.7: Comparison of the Seveso II enforcement systems

	NL	D NRW	BW	BAV	GB	E CAT	VAL	MAD
Number of agencies in total?	3	2	2	2	2	5	6	4
Policy areas represented: environment (E), occupational safety and health (OSH), interior affairs (IA), industry (I)?	E, OSH, IA	E, OSH	E, OSH	E, OSH	E, OSH	I	I	I
Clear division of responsibilities between agencies, yes (Y) or no (N)?	N	N	N	N	Y	Y	Y	Y
Are agencies expected to co-operate, yes (Y) or no (N)?	Y	Y	N	Y	Y	N	N	N
Potential difficulties with the co-operation: high (H), medium (M) or low (L)?	H	M	H	H	L	not applicable	not applicable	not applicable
Potential competition between agencies: high (H), medium (M) or low (L)?	M	L	M	M	L	H	H	H

In the Netherlands and Germany the agencies are expected to co-operate on the assessment and the inspections (except for Baden-Württemberg) and this leads to a less clear division of responsibilities. In the Netherlands, for example, there is an intention that each agency will enforce those aspects closely related to its own legislation. However, there are no clear agreements on this with the consequence

The rather unclear division of responsibilities between the three Dutch enforcement agencies partly explains the legalistic assessment style in the Netherlands.

that inspectors from all three agencies often assess large parts of the reports and thus the same aspects are checked by all three agencies. This partly explains the legalistic assessment style in the Netherlands; many assessors check the entire safety report. The many policy areas that are included in the enforcement practice also explain the rather insistent enforcement style in the Netherlands. The Netherlands is the only country that clearly involves three different enforcement agencies representing three different policy areas in the enforcement of the Seveso II directive. In the other three Member States only one or two policy areas are represented. This makes the Dutch enforcement most complete and allows for the situation in which inspectors with many different backgrounds check many different details.

Potential difficulties related to the co-operation are high in those cases where the agencies involved show many differences in sort, organisation, tasks and policy area. Especially in the Netherlands – where different types of agencies are expected to co-operate – there are many difficulties. Here, because the three enforcement agencies are differently divided into region-

al offices, it sometimes is hard for the inspectors to co-operate in teams. Particularly labour inspectors – who work in relatively large regions – sometimes have to deal with colleagues from many different regional offices of the environmental authority or the fire brigade. This makes it hard to establish common working-procedures in the Netherlands and this allows for small differences in enforcement styles between regions. According to both companies and inspectors, the enforcement style is slightly more legalistic in the Rotterdam harbour area. In this area, many upper tier companies are located and inspectors already have a long experience in working together.

A different division into regional offices and a different degree of internal centralisation often makes the co-operation between the three Dutch enforcement agencies complicated.

The variable ‘enforcement system’ does not seem to influence differences in enforcement styles between the countries. Whereas Great Britain shows low potential difficulties in the co-operation between agencies, the Netherlands shows high potential difficulties. Both countries, however, show a rather insistent enforcement style when enforcing the Seveso II directive. Nor does the high potential competition between the Spanish private assessment and inspection agencies, for the time being, lead to a complete different enforcement practice compared to the three other Member States.

Differences in the enforcement systems do not seem to explain differences in enforcement styles between countries.

10.4 Safety data sheets enforcement agencies

10.4.1 *The Netherlands*

In the Netherlands three agencies can be responsible for the enforcement of the safety data sheets directive: the ‘Inspectorate for Health Protection and Veterinary Public Health’ (HP), the ‘Labour Inspectorate’ (LI) and the ‘Inspectorate for the Environment’ (IE).⁹ As chapter five on the safety data sheets enforcement practice showed, however, only the inspectorate for the environment actively enforces this topic nowadays.

The ‘Inspectorate for Health Protection and Veterinary Public Health’ is organised in one central office within the ‘Ministry of Health, Welfare and Sport’ and five regional offices throughout the country. The main task of the inspectorate is the enforcement of regulations concerning foodstuffs, consumer items and veterinary matters. Besides this, the inspectorate has tasks in the area of investigating hazardous health situations and consumer complaints, advising authorities and developing research methods. The central office makes ‘three-year-plans’, in co-operation with the regions, which provide the general framework within which the regions will operate. The work is divided into three clusters: food, non-food and veterinary. All inspectors have their own specialisation and are responsible for one of these three clusters.

The environmental inspectorate is organised in one central office, located within the ‘Ministry of Housing, Spatial Planning and the Environment’, and five regional offices. The main task of this inspectorate is to make sure that all legislation to protect and improve the environment is executed and complied with. All inspectors in the regional offices have their own specialisation. There are, for example, inspectors who mainly focus on legislation under

the 'Hazardous Substances Act'. The enforcement is executed in specific nation-wide projects. Even though there are five regional offices, due to the high internal centralisation all offices work according to the same national projects. This to ensure that the enforcement practice of the 'Inspectorate for the Environment' is the same throughout the country.

Table 10.8: SDS enforcement agencies in the Netherlands

	HP	LI	IE
Size agency: large (L), medium (M) or small (S).	M	M	S
Long tradition: yes (Y) or no (N).	Y	Y	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	C	C	C
Number of regional offices.	5	6	5
Internal centralisation: low (L), medium (M) or high (H).	H	H	H
Specialisation by territory (T) or by function (F).	F	F	F
Specialisation by rule (R) or by company (C)?	R	R	R
Enforcement as core job: yes (Y) or no (N)?	Y	Y	Y

Generally speaking, the three enforcement agencies responsible for the enforcement of the safety data sheets legislation in the Netherlands are similar. All three are enforcement agencies connected to the government, divided into only a couple of regional offices, highly centralised and they organise inspections per topic of legislation. The organisation of the individual agencies does therefore not explain why the inspectorate for the environment is the only agency to actually enforce this topic.

The characteristics of the individual Dutch enforcement agencies do not explain why the environmental agency is the only one to actively enforce the SDS directive.

10.4.2 Germany

Because of the dual system of inspection and control of occupational safety and health legislation in Germany, there is one federally organised agency and furthermore all Länder have their own inspection agencies. The federally organised agency is the 'Berufsgenossenschaften' (BG). All three Länder appointed one inspection agency responsible for occupational safety and health legislation for the enforcement of the safety data sheets directive. North-Rhine Westphalia uses its 'Regional Agency for Labour Protection' (LPA). Baden-Württemberg and Bavaria both use their 'Factory Inspectorate' (FI).¹⁰

Table 10.9: SDS enforcement agencies in Germany

	BG	NRW: LPA	BW: FI	BAV: FI
Size agency: large (L), medium (M) or small (S).	L	L	L	M
Long tradition: yes (Y) or no (N).	Y	Y	Y	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	P	C	C	C
Number of regional offices.	35 sectoral divisions	12	9	8
Internal centralisation: low (L), medium (M) or high (H).	M	M	M	M
Specialisation by territory (T) or by function (F).	F	F	F	F
Specialisation by rule (R) or by company (C)?	C	C	C	C
Enforcement as core job: yes (Y) or no (N)?	Y	Y	Y	Y

According to the German insurance scheme, the three aspects of accident prevention, rehabilitation (restoration of health and working capacity) and provision of financial benefits such as pensions are controlled by one organisation: 'Hauptverband der gewerblichen Berufsgenossenschaften'. This organisation has the task to use all appropriate measures to prevent accidents at work. The BG is a private organisation, financed by its member firms. Every company is obliged to be a member. The BG can issue its own legislation, 'Accident Prevention Regulations', which forms a part of the autonomous legislation (as opposed to the national legislation issued by the federal government). (Matthews, 1993: 10) These BG regulations usually deal with technical standards of specific machinery or production processes. In many cases there is an overlap between the issues regulated in national law and those touched upon in BG legislation. A main difference between the two is that BG legislation is more concerned with the *usage* of certain machinery and substances and not so much with the machinery and substances *as such*. The larger organisation of the BG is subdivided into divisions. In total there are 35 BG's organised per sector (for example metal, construction, textile and leather) and not per Land. They therefore hand out their own regulations per sector. The BG inspectors check all legislation regarding safety and health per sector; they are not responsible for merely one topic but they are assigned to companies in a certain sector. Even though all inspectors work in a particular region, they do work according to national guidelines and projects. Thus there are no major differences between Länder in how BG inspectors enforce legislation.

The governmental agencies of the three Länder are all similar; they are special enforcement agencies connected to the regional governments with a medium internal centralisation and a specialisation of enforcement by company. This might explain why there are not many differences between the three Länder in how they enforce the SDS directive.

10.4.3 Great Britain

Two British enforcement agencies are responsible for the enforcement of the safety data sheets directive: the 'Trading Standards Institute' (TSI) and the 'Health and Safety Executive' (HSE).¹¹

The 'Trading Standards Institute', with its 'Trading Standards Officers', has the task to enforce and advice upon trading standards and consumer protection legislation. The institute has a central office and is divided into more than 200 local authorities in England, Wales, Scotland and Northern Ireland. The local authorities are free to decide how to organise their local office. Some local offices divide officers into specialist sections, others organise their region in geographical areas for which an officer is responsible. The officers are responsible for a wide variety of tasks; in total there are more than 50 categories of areas in which the Trading Standards Officers are active.

Table 10.10: SDS enforcement agencies in Great Britain

	TSI	HSE
Size agency: large (L), medium (M) or small (S).	L	L
Long tradition: yes (Y) or no (N).	Y	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	C	C
Number of regional offices.	± 200	7
Internal centralisation: low (L), medium (M) or high (H).	L	H
Specialisation by territory (T) or by function (F).	F	F
Specialisation by rule (R) or by company (C)?	R or C	C
Enforcement as core job: yes (Y) or no (N)?	Y	Y

10.4.4 Spain

In all four Spanish Autonomous Communities the regional ministry responsible for the topic 'health' enforces the safety data sheets directive.

As table 10.11 on the Spanish SDS enforcement agencies shows, there are absolutely no differences between the different Autonomous Communities in the sort of agency; they all use their regional health ministry. Thus in all four cases the enforcement is arranged by a governmental agency with experience in the enforcement of health legislation, specialised by territory and by rules and with a high internal centralisation. The sort of agencies does therefore not explain the differences between Andalusia and Madrid with enforcement projects on the one hand and Catalonia and Valencia with no active enforcement on the other hand.

The type of enforcement agencies in Spain does not explain why Andalusia and Madrid show a more intensive enforcement of the SDS directive than Catalonia and Valencia.

Table 10.11: SDS enforcement agencies in Spain

	CAT: regional health ministry	VAL: regional health ministry	MAD: regional health ministry	AND: regional health ministry
Size agency: large (L), medium (M) or small (S).	L	L	L	L
Long tradition: yes (Y) or no (N).	Y	Y	Y	Y
Sort of actor: governmental (G), connected to government (C) or private (P).	G	G	G	G
Number of regional offices.	4	6	11	8
Internal centralisation: low (L), medium (M) or high (H).	H	H	H	H
Specialisation by territory (T) or by function (F).	T	T	T	T
Specialisation by rule (R) or by company (C)?	R	R	R	R
Enforcement as core job: yes (Y) or no (N)?	Y	Y	Y	Y

10.4.5 Comparison of the safety data sheets enforcement agencies

The SDS enforcement agencies of the four Member States are rather similar. In all cases the agencies have a long tradition in enforcement and have legislative enforcement as one of their main tasks. They are all divided into only a few regional offices (except for the TSI in GB). Only with respect to two characteristics differences can be noticed and these differences seem to form an explanation for the somewhat more insistent Dutch enforcement style.

The Netherlands uses enforcement agencies with a *high internal centralisation* and a focus on the *enforcement of legislation per topic* and not per company. These elements can also be found in Spanish agencies and this might explain why the Spanish intensity of SDS inspections is persuasive as the Dutch intensity is. Within the Netherlands and Andalucia – the places where a rather intensive

The high internal centralisation and the enforcement of legislation per topic can explain the higher intensity of SDS inspections in the Netherlands and Andalucia & Madrid.

enforcement of the SDS directive can be found – the example is discovered of one person who found this topic important. Both in the Netherlands and in Andalucia there was one person who thought that it was necessary to enforce the topic of safety data sheets. This overview of the agencies involved shows that the reason why these two persons were able to promote their interests in this subject throughout the entire country or Autonomous Community is the form of the agencies they work for. The Dutch environment agency and the regional health ministry in Andalucia make it possible for one person to promote his or her interests because there is a high internal centralisation (that promotes a uniform enforcement strategy) and a focus on enforcing legislation per topic. Within the HSE in Great Britain there also was one person who thought this topic of safety data sheets was important enough for a national project. Such a national project would have been possible because of the high internal centralisa-

tion, however, the specialisation of enforcement by company made it more difficult. Within the HSE each inspector has his own companies and all occupational safety and health legislation has to be enforced within these companies. Therefore, inspectors will more easily concentrate on the enforcement of more visible and more salient legislation than on the enforcement of a less important topic such as SDS. At the time of conducting this research all HSE (especially HID) inspectors were very much focused on the enforcement of the Seveso II directive. Inspectors are responsible for all occupational safety and health legislation, however, they did not have much time to enforce other legislation since the enforcement of Seveso II leads to such a high workload.

Inspectors enforce all legislation their agency is responsible for within their own set of companies (GB, D) and the agencies are organised according to a medium internal centralisation (D). This explains why the enforcement of the safety data sheets legislation in Germany and Great Britain is so dependent on the interest of the individual inspectors and hardly takes place therefore.

Table 10.12: Comparison of the SDS enforcement agencies

	NL	D NRW	BW	BAV	GB	E CAT	VAL	MAD
Size agency: large (L), medium (M) or small (S).	S ₁ , M ₂	L ₂	L ₂	M ₁ , L ₁	L ₂	L	L	L L
Long tradition: yes (Y) or no (N).	Y ₃	Y ₂	Y ₂	Y ₂	Y ₂	Y	Y	Y Y
Sort of actor: governmental (G), connected to government (C) or private (P).	C ₃	C ₁ , P ₁	C ₁ , P ₁	C ₁ , P ₁	C ₂	G	G	G G
Number of regional offices: many (M) or few (F).	F ₃	F ₂	F ₂	F ₂	M ₁ , F ₁	F	F	F F
Internal centralisation: low (L), medium (M) or high (H).	H ₃	M ₂	M ₂	M ₂	L ₁ , H ₁	H	H	H H
Specialisation by territory (T) or by function (F).	F ₃	F ₂	F ₂	F ₂	F ₂	T	T	T T
Specialisation by rule (R) or by company (C)?	R ₃	C ₂	C ₂	C ₂	L/C ₁ , C ₁	R	R	R R
Enforcement as core job: yes (Y) or no (N)?	Y ₃	Y ₂	Y ₂	Y ₂	Y ₂	Y	Y	Y Y

10.5 The safety data sheets enforcement systems

Table 10.13: Comparison of the SDS enforcement systems

	NL	D NRW	BW	BAV	GB	E CAT	VAL	MAD	AND
Number of agencies in total?	3	2	2	2	2	1	1	1	1
Policy areas represented: environment (E), occupational safety and health (OSH) or consumer (C)?	C, OSH, E	OSH	E, OSH	OSH	C, OSH	OSH	OSH	OSH	OSH
Clear division of responsibilities between agencies, yes (Y), no (N) or not applicable (N/A)?	Y	Y	Y	Y	Y	N/A	N/A	N/A	N/A
Are agencies expected to co-operate, yes (Y) or no (N)?	N	N	N	N	N	N/A	N/A	N/A	N/A
Potential difficulties with the co-operation: high (H), medium (M) or low (L)?	L	L	L	L	L	N/A	N/A	N/A	N/A
Potential competition between agencies: high (H), medium (M) or low (L)?	L	L	L	L	L	N/A	N/A	N/A	N/A

The SDS enforcement system is exactly the same in all four Member States and within Germany and Spain also within all Länder and Autonomous Communities. There is a clear division of responsibilities between the agencies in all countries; they are all expected to independently enforce this topic. The potential difficulties and competition between the agencies is low. It might seem that only in Spain

The SDS enforcement systems are similar in all four Member States and do therefore not explain the more insistent Dutch style

there is one agency per Autonomous Community, but in the other three countries in practice there is also only one agency that actually enforces the topic of safety data sheets. In the Netherlands the environmental inspectorate is the only agency to actively enforce this legislation and in Germany the 'Berufsgenossenschaften' and in Great Britain the 'Trading Standards Institute' are in practice not enforcing this topic. The enforcement systems of the four countries thus do not seem to explain why the Netherlands shows a more insistent enforcement approach compared to the other three Member States.

10.6 Conclusion: the impact of the 'organisational structure'

Overall, it seems that the organisation of the agencies is of more influence on less important topics than it is on salient topics. In the enforcement of the Seveso II directive it does not make much of a difference whether a country uses agencies with a high or a low internal centralisation or specialised by rule or by company. In all cases there is active enforcement of this topic, no matter the form or organisation of the agencies. The Netherlands and Great Britain both show an insistent enforcement style yet they use differently organised agencies. The organisation of the agencies does seem to influence the uniformity of enforcement within a country.

The responsibility of an agency for transposition of a directive does not influence the enforcement practice. In Great Britain the HSE transposed both the Seveso II and the SDS directive. In the case of the SDS directive this did not stimulate enforcement. The responsibility of an enforcement agency for the transposition thus does not guarantee enforcement to actually take place.

The non-salient safety data sheets directive shows that it does seem to help that in the Netherlands and Andalucia there are agencies with a high internal centralisation and a specialisation of enforcement by rule. It seems that in order to have any inspections at all, there is a need of enforcement agencies with a focus on specific legislation. Agencies that are specialised by company hardly show any attention for this topic. A less important topic such as safety data sheets seems to be neglected when inspectors have to enforce all legislation within their own set of companies. When inspectors can select inspection topics from many pieces of legislation it is unlikely that they will select a more invisible non-salient topic.

A less salient topic such as SDS is more likely to show an intensive inspection rate when it is enforced by agencies with a high internal centralisation and a specialisation of enforcement by rule.

The enforcement system of a country does not seem to influence the enforcement style at all. The Netherlands and Great Britain show deviating Seveso II enforcement systems whereas they both adopt an insistent enforcement style. In the case of safety data sheets all countries show the same enforcement system and this thus does not explain why the Netherlands adopted an insistent enforcement style.

Notes

- 1 In this research a rough distinction has been used between large (> 500 employees), medium (100-500 employees) and small (< 100 employees) agencies.
- 2 The internal centralisation refers to the amount of contact between the head office and the regional offices. High internal centralisation means that the head office to a large extent dictates the working practices of the regional offices.
- 3 For more information on the variables, see chapter 2, section 2.3.3.
- 4 The 12 provinces do have contact with each other in a national organisation of provinces and municipalities also have the opportunity to meet on national level. This type of central co-ordination is far less intensive and detailed compared to the meetings of the 25 labour inspectors.
- 5 This applies to England and Wales only. In Scotland the HSE co-operates with the 'Scottish Environment Protection Agency'.
- 6 The HID was first called 'CHID' (Chemicals and Hazardous Installations Division). CHID was integrated with the 'offshore department' and 'mine inspectors' in November 1999 and is since then called HID.
- 7 The system that provides a uniform enforcement throughout the country by using one 'lead-unit co-ordinator' to manage the approach, intervention-plan, within all establishment of one company.
- 8 For ECA and ICICT see Catalonia. On Cualicontrol no information is available.
- 9 For a description of the labour inspectorate see section 10.2.1 on the Seveso II enforcement agencies in the Netherlands.
- 10 The agencies of the three Länder have all been presented before in section 10.2.2 on the Seveso II directive in Germany.
- 11 For the HSE see section 10.2.3 on the Seveso II enforcement agencies in Great Britain.

Chapter 11

Street-level actors

11.1 Introduction

Two street-level actors are involved in enforcement and compliance: inspectors and regulated, in the case of this research chemical companies. For both groups, three variables might be of importance: (1) the characteristics of inspectors and of chemical companies, (2) the opinion of the other group (inspectors' opinion of the companies and companies' opinion of the inspectors) and (3) the opinions of both groups on the legislation.¹

Six characteristics of inspectors are identified:²

- 1) Age.
- 2) Experience. The experience of inspectors is measured according to two variables: the number of years an inspector works for the organisation and the number of years of experience with enforcing the topic of the directive.
- 3) Education. Again two elements are of importance: the background of the inspector (technical, chemical, environmental or different) and the question whether or not the inspector received training on the topic of the directive.
- 4) Workload. Two aspects measure the workload of inspectors. Firstly the extent to which inspectors themselves feel they have sufficient time to execute the inspections and secondly the number of (Seveso II / SDS) companies per inspector.
- 5) Discretion. The discretion of the inspectors is measured by the extent to which inspectors work according to an inspection-plan, are free to decide what to inspect and the extent to which they are checked by their own management.
- 6) Self-image. Do inspectors see themselves as a 'controller', 'consultation partner', 'advisor', 'infringement-hunter', 'expert', 'servant of the public interest', or 'servant of the government'?

Three characteristics of chemical companies are identified:

- 1) The size of the group of companies that have to comply with a directive (group-size).
- 2) The size of the companies that need to be inspected (company-size).
- 3) The territorial concentration of the companies.³

The opinion of the other group is measured by the extent to which inspectors and companies agree to the following statements. A positive answer reflects a positive opinion. Inspectors' opinion of companies:

- 1) Companies comply well.
- 2) Companies do not try to evade the rules.

Companies' opinion of inspectors:

- 1) Inspectors are competent enough to enforce this legislation.
- 2) Inspectors do not impose rules without listening to us.
- 3) Our inspectors are not stricter than inspectors in other countries are.
- 4) We do not have any problems with the enforcement practice and enforcement style of inspectors.

The opinion of the legislation of both street-level actors is again measured by the extent of agreement on statements. A positive answer reflects a positive opinion of the legislation.

- 1) The demands in the legislation are clear.
- 2) The demands in the legislation are reasonable.
- 3) The demands in the legislation are not too detailed.
- 4) The demands in the legislation are realistic.
- 5) The demands in the legislation are easy to enforce / comply with.
- 6) The demands in the legislation add to our company standards. (companies)
- 7) Infringements are easy to detect. (inspectors)

11.2 The inspectors

11.2.1 *The Seveso II inspectors*⁴

a) Characteristics of the inspectors

The personal characteristics of the Seveso II inspectors do not differ enormously between the four Member States. The inspectors seem to be the oldest in Bavaria and the youngest in Spain. The age of the inspectors does not differ considerably between the Netherlands and Great Britain – with their more insistent enforcement styles – on the one hand and Germany and Spain – with their more persuasive enforcement styles – on the other hand. Age therefore does not seem to explain why Dutch and British inspectors on average are more legalistic than German and Spanish inspectors are in the enforcement of the Seveso II directive.

Especially in Bavaria inspectors already work for their organisation for a long time, which is logical since the Bavarian inspectors are also the oldest. The relatively large percentage of Dutch inspectors who only work less than two years for their organisation can be explained by the short experience of the fire brigade with the enforcement of major accident hazards legislation. It therefore was forced to hire new personnel. The same applies to the Spanish situation. The experience with the enforcement of the topic of major accident hazards legislation is comparable in three of the four Member States. Only in Spain inspectors have less experience with the enforcement of this topic. The late entrance of Spain in the European Community (1986) can explain this; at that time the other three countries already worked on this topic for some years. This might partly explain the slow start in Spain with the setting up of enforcement structures. It might also partly explain the extensive use of private agencies, often foreign private agencies, to execute the enforcement. The absence of experience in Spain forces the authorities to use foreign and private expertise. The shorter experience might also explain why Spanish agencies more often are willing to warn companies and give them a second chance before imposing a formal sanction whenever inspectors notice an infringement.

The absence of a long experience with the enforcement of major accident legislation in Spain explains the slow start in setting up enforcement structures and the usage of foreign and private expertise.

Table 11.1: Seveso II inspectors (answers in percentages; number of respondents in brackets)

	NL	D	GB	E	
Age of the inspectors:		(47)	(9)	(13)	(9)
• 20-29	2	0	0	33	
• 30-39	26	22	54	22	
• 40-49	40	56	15	45	
• 50+	32	22	31	0	
Number of years working for this organisation:		(47)	(9)	(13)	(9)
• 0-2	26	0	0	33	
• 2-5	4	0	15	0	
• 5-10	13	11	31	22	
• > 10	57	89	54	45	
Enforcing this directive since when?	1979-2000	1981-2000	1983-2000	1991-2000	
Background of the inspectors:		(47)	(9)	(13)	(9)
• technical	41	67	38	44	
• chemical	34	33	38	44	
• environmental	21	0	8	0	
• different	4	0	16	12	
Percentage of inspectors who are trained.	89	(47) 0	(9) 100	(13) 33	(9)
Inspectors have enough time to execute the enforcement.	15	(47) 14	(7) 39	(13) 11	(9)
Number of companies per inspector: high (H), medium (M) or low (L).	L	L	L	L	
Inspectors who use an inspection-plan.	66	(47) 78	(9) 92	(13) 37	(8)
Inspectors who are free to decide what to inspect.	32	(41) 37	(9) 54	(13) 13	(8)
Inspectors who are often checked by the management of their organisation.	6	(43) 11	(9) 58	(12) 75	(8)
Self-image of the inspectors.	advisor / consultation partner	servant public interest	servant public interest	advisor	

The type of background of the inspectors does not differ between the four Member States. Generally speaking, Seveso II inspectors have a technical or a chemical background. Only in the Netherlands, because of the involvement of environmental inspectors, a percentage of the inspectors also received an environmental education.⁵ This might form a part of the explanation why Dutch inspectors show a high inspection intensity. Joint inspections of inspectors with different backgrounds will

The teams of Dutch and British inspectors show more diverging backgrounds and these inspectors are trained more often; this might explain the higher intensity and more insistent approach of inspections in these countries.

be more intensive and detailed than inspections with inspectors with less diverging backgrounds. The fact that Seveso II inspectors in the Netherlands and in Great Britain are trained more often than German and Spanish inspectors are, might explain why the Dutch and British inspectors show a more insistent enforcement style. An appropriate training on the content of a directive gives an inspector more knowledge on specific details and thus more opportunities to adopt an insistent enforcement style. The Seveso II directive is a complex and sometimes rather vague directive. Without proper training it might be hard, even impossible, to strictly enforce it.

In none of the four Member States, inspectors are very positive about the amount of time they have for the execution of the Seveso II enforcement. Yet, despite this lack of time inspectors adopt a rather insistent enforcement style. Only in Great Britain inspectors are slightly more positive. This can be explained by the spread of deadlines for handing in the safety reports, which gives them more time per company. Even though the inspectors feel that they do not have enough time for the Seveso II enforcement, they are not responsible for many establishments per person. In all four cases, the number of Seveso II companies per inspector is rather low. In the Netherlands, for example, there are about 270 inspectors (not all full-time though) for approximately 300-350 Dutch Seveso II establishments. The example of Bavaria shows the involvement of 290 inspectors (again not all full-time) for approximately 300 Bavarian Seveso II companies. In all four countries it can be seen that one inspector is responsible for only a couple of Seveso II establishments. This gives inspectors quite some time for the enforcement of this directive within these companies – even though inspectors generally indicate not to have enough time. The enforcement of this topic is time-consuming in the sense that the inspectors have to check many elements. However, the low number of companies per inspector in all four Member States allows them much time per company and this might form a part of the explanation why in general the Seveso II enforcement styles are rather insistent; in order for inspectors to be able to adopt an insistent approach, much time is needed.

The low number of Seveso II companies per inspector allows the inspectors much time per company and therefore the opportunity to adopt an insistent enforcement style.

In the Netherlands and Bavaria inspectors are hardly checked by the management of their organisation whereas in Spain this seems to be quite common. In Great Britain inspectors indicated that normally the management was not used to check them, but this changed since the charging regime was introduced. Charging makes it easier for management to check what inspectors are doing. The 'Health and Safety Executive' set up a complete new division for the enforcement of the Seveso II directive and they expect to see something in return. Management knows what inspectors are doing and what they are not doing. Inspectors feel this clearly: *'Before the charging it was easy for me to input something in the computer to say that I have spent 6 hours at one site while I have spent 4. That didn't cause any problems for that site but now if I do that you have to explain why you are charging 6 hours.'*

Some of the characteristics of inspectors form an explanation for differences between the four Member States in Seveso II enforcement styles. The absence of a long experience with the subject of major accident hazards legislation in Spain might form a part of the explanation why they were rather late with the establishment of enforcement structures, why they often contract private and foreign agencies for the enforcement and why they seem to warn com-

panies first before imposing formal sanctions. As well, a possible explanation for differences is that the countries with an insistent enforcement style (NL, GB) trained their inspectors and use teams of inspectors with more diverging backgrounds whereas the countries with a more persuasive style (D, E) did not do so.

b) Inspectors' opinion of the regulated

Table 11.2: Inspectors' opinion of the Seveso II companies (answers in percentages; number of respondents in brackets)

	NL	D	GB	E
Companies comply well.	60	(43) 87	(8) 15	(13) 44
Companies do not try to evade the rules.	80	(45) 100	(9) 100	(13) 67

The inspectors' opinions of the compliance rate of the regulated do not differ enough to form an explanation for differences in Seveso II enforcement styles between the Member States. It could be expected that inspectors who are of the impression that companies do not comply well and that companies try to evade the rules show a more active and legalistic approach compared to inspectors who are more positive about the compliance rate of companies. The opinion of the regulated does not differ, however, between Dutch and British inspectors – with a more insistent enforcement style – on the one hand and German and Spanish inspectors – with a more persuasive style – on the other hand.

c) Inspectors' opinion of the legislation

The presupposition that a positive attitude of inspectors towards legislation stimulates intensive enforcement and a more legalistic enforcement style is not supported by the Seveso II case study. The presupposition that a negative attitude would stimulate disinterest and thus a passive enforcement style is denied by this case. British inspectors show the most negative attitude towards the Seveso II directive – they are especially negative about the enforceability of

The opinion of inspectors on the Seveso II directive does not explain differences in enforcement styles.

the directive – while they adopt the most insistent enforcement style. German and Spanish inspectors are more positive about the legislation but their enforcement styles are more lenient. Perhaps the Spanish inspectors who are the most positive about the enforceability of the Seveso II directive take the requirements too lightly and thus do not enforce the legislation to the full. Overall, the opinion of inspectors of the Seveso II legislation thus does not seem to influence their enforcement style.

Table 11.3: *Inspectors' opinion of the Seveso II legislation (answers in percentages; number of respondents in brackets)*

	NL	D	GB	E
Demands are clear.	85 (47)	75 (8)	38 (13)	78 (9)
Demands are reasonable.	100 (47)	89 (9)	54 (13)	100 (9)
Demands are not too detailed.	72 (47)	78 (9)	92 (13)	33 (9)
Demands are realistic.	92 (47)	67 (9)	46 (13)	100 (9)
Demands are easy to enforce.	54 (46)	22 (9)	15 (13)	78 (9)
Infringements are easy to detect.	33 (46)	38 (8)	23 (13)	50 (8)

In all four Member States inspectors are negative about the visibility of Seveso II related infringements. They all claim that it is difficult to detect non-compliance. This might explain the low expectations of inspectors towards their future sanctioning behaviour. They do not expect to notice infringements and thus do not expect to sanction often. As chapter nine on the legal design already showed, the low visibility of infringements is caused by the nature of the Seveso II directive. Some of the requirements in the directive often are too vague to notice non-compliance.

Because of the vague nature of the Seveso II directive infringements are hard to detect. This explains the low level of sanctioning within the four Member States.

11.2.2 *The safety data sheets inspectors*⁶

a) Characteristics of the inspectors

British inspectors who participated in the northern region project are older and work longer for their organisation compared to the Dutch and Spanish inspectors. It seems that the HSE used its older and more experienced inspectors for this particular project. The Netherlands also works with some older and more experienced inspectors. These inspectors adopt a rather insistent enforcement style, which does not confirm the hypothesis that older inspectors are more lenient. The age of the SDS inspectors – or their working experience as an inspector in general – does not form an explanation for differences between countries in enforcement styles. Nor does the experience with enforcing this particular directive form an explanation since this is similar between the three Member States.

Table 11.4: SDS inspectors (answers in percentages; number of respondents in brackets)

	NL	GB	E	
Age of the inspectors:		(8)	(7)	(6)
• 20-29	0	0	0	
• 30-39	37	0	50	
• 40-49	25	43	50	
• 50+	37	57	0	
Number of years working for this organisation:		(8)	(7)	(6)
• 0-2	12	0	0	
• 2-5	25	0	50	
• 5-10	25	14	17	
• > 10	38	86	33	
Enforcing this directive since when?	1994-1997	1990-1996	1995-1999	
Background of the inspectors:		(8)	(7)	(6)
• technical	0	44	17	
• chemical	63	28	33	
• environmental	37	0	17	
• different	0	28	33	
Percentage of inspectors who are trained.	87	(13) 86	(7) differs	
Inspectors have enough time to execute the enforcement.	50	(8) 28	(7) 17	(6)
Number of companies per inspector: high (H), medium (M) or low (L).	H	H	H	
Inspectors who use an inspection-plan.	63	(8) 0	(7) differs	
Inspectors who are free to decide what to inspect.	12	(8) 100	(7) differs	
Inspectors who are often checked by the management of their organisation.	12	(8) 28	(7) 67	(6)
Self-image of the inspectors.	controller	servant public interest	controller	

In the case of the safety data sheets directive, inspectors with a chemical background are likely to be able to strictly enforce this topic since they have more knowledge in this particular area. The SDS directive covers many different areas of expertise, but 'chemicals' seems to be the most adequate background to enforce this topic. Table 11.4 shows that the background of the Dutch inspectors might explain their more insistent enforcement approach. Dutch inspectors more often have a chemical background and are thus expected to be able to check the sheets more thoroughly compared

Especially Dutch inspectors have a chemical background, enough time and a low amount of discretion; this might stimulate them to adopt a more insistent enforcement approach.

to inspectors with a technical or environmental background. Other deviating elements compared to Great Britain and Spain that might stimulate Dutch inspectors to adopt a more insistent enforcement style are the facts that a higher percentage of the inspectors feel that they have enough time to enforce this directive, a higher percentage of inspectors work according to an inspection-plan and a lower percentage of inspectors feel themselves free to decide what to inspect. These are all elements that give inspectors time, and force them, to adopt a more insistent enforcement style.

b) Inspectors' opinion of the regulated

Table 11.5: Inspectors' opinion of the SDS companies (answers in percentages; number of respondents in brackets)

	NL		GB		E	
Companies comply well.	50	(8)	14	(7)	0	(6)
Companies do not try to evade the rules.	87	(8)	86	(7)	100	(6)

Dutch inspectors are slightly more positive about the compliance record of companies than British and Spanish inspectors are, yet they show a more insistent enforcement approach. The negative attitude of British and Spanish inspectors towards the compliance of companies with the safety data sheets legislation does not trigger them to enforce this topic more intensively or more legalistic. The SDS case thus does not support the presupposition that a negative opinion of the compliance rate of the regulated stimulates the inspectors to enforce this topic more intensively.

A negative opinion of the SDS compliance record does not trigger inspectors to enforce this topic more intensively.

c) Inspectors' opinion of the legislation

Table 11.6: Inspectors' opinion of the SDS legislation (answers in percentages; number of respondents in brackets)

	NL		GB		E	
Demands are clear.	88	(8)	57	(7)	100	(6)
Demands are reasonable.	100	(8)	57	(7)	100	(6)
Demands are not too detailed.	87	(8)	57	(7)	67	(6)
Demands are realistic.	100	(8)	57	(7)	83	(6)
Demands are easy to enforce.	75	(8)	29	(7)	66	(6)
Infringements are easy to detect.	38	(8)	14	(7)	33	(6)

In the Netherlands the rather positive attitude of inspectors towards the safety data sheets legislation does seem to match the insistent Dutch enforcement style. Dutch inspectors are positive about the clarity, reasonability and realism of the demands and they are the most positive about the enforceability of the safety data sheets legislation. In Spain, however, a positive

attitude is combined with a persuasive, almost passive, enforcement style. In this respect, a positive opinion of inspectors of the legislation does not automatically lead to an active inspection style. As was the case with the Seveso II directive, in all countries the inspectors are negative about the visibility of infringements. This might again explain the low frequency of sanctioning. This negative opinion of the visibility of infringements is surprising since the SDS directive is clearer in the description of its requirements compared to the Seveso II directive.

11.2.3 *Seveso II and safety data sheets inspectors compared*

a) Characteristics of the inspectors

The characteristics of individual inspectors hardly provide an explanation for differences between both directives. The differences between the inspectors who enforce both directives are to be neglected; there are as many differences between countries per directive as there are between both directives in general. The only aspect that differs is the number of companies in which inspectors have to enforce the directive. Inspectors are responsible for only a couple of Seveso II companies whereas there are thousands of companies per country that have to comply with the SDS directive – and therefore many more potential companies to check for this topic per inspector. Thus inspectors have more time per company to intensively and thoroughly check the Seveso II compliance. The Seveso II inspection intensity is thus higher, which might explain the overall more insistent enforcement style for Seveso II compared to SDS.

The smaller number of companies per Seveso II inspector gives them more opportunity to adopt an insistent enforcement style.

The way inspectors describe themselves does not seem to influence their enforcement style. Whereas Seveso II inspectors more often picture themselves as ‘advisors’ or ‘servants of the public interest’, SDS inspectors are more likely to see themselves as ‘controllers’. Yet, the Seveso II enforcement style generally speaking is more insistent than the SDS enforcement style is. SDS inspectors more often consider themselves to be ‘controllers’, but does not say anything about their enforcement style, except perhaps for Dutch inspectors.

Generally speaking, in the case of safety data sheets the characteristics of the inspectors seem to have more influence on their enforcement style than in the case of Seveso II. Perhaps such characteristics only start to play a role when it concerns a small and relatively unimportant directive. Salient topics are less dependent on the interests of individual inspectors since they are high on the political agenda and thus assured of attention. When it concerns

The characteristics of inspectors become more important during the enforcement of a non-salient topic. In this case, the existence of any enforcement at all depends on the background, training, time and discretion of inspectors.

a non-salient topic, minor aspects such as the fact whether inspectors are trained, have the appropriate background, have enough time to execute the enforcement and are told what to inspect become more important. Without these aspects a non-salient topic such as SDS will otherwise not be enforced. Thus for less important topics to be enforced it is more important to select inspectors with the appropriate background, train the inspectors, give them time to enforce this topic, set up inspection plans and tell inspectors what to do (low discretion).

b) Inspectors' opinion of the regulated

Generally speaking, inspectors are more positive about the Seveso II compliance record than they are about the SDS compliance record. The negative attitude of inspectors towards compliance with the safety data sheets directive thus does not automatically lead to more intensive enforcement. It seems that the opinion of inspectors of the compliance of companies is less influential than the saliency of a directive is. Even though inspectors consider the compliance record of SDS companies to be bad, they are not triggered to enforce this topic thoroughly since they do not consider it to be important enough.

A negative opinion of the compliance record of the regulated does not automatically lead to an insistent enforcement style when a topic is not considered to be salient.

c) Inspectors' opinion of the legislation

Generally speaking, the overall opinion of inspectors of both directives is rather comparable. Inspectors are slightly more positive about the clarity of the demands in the SDS directive and inspectors are more positive about the realism of the demands in the Seveso II legislation. The SDS legislation is considered to be easier to enforce yet the enforcement style is more passive. The presupposition that a positive opinion of the enforceability of a directive stimulates enforcement to actually take place is therefore not confirmed by the SDS case. It again seems that the saliency of a directive is more important than the question whether inspectors have a positive opinion of the legislation or not. The more intensive and insistent Seveso II enforcement style cannot be explained by differences in opinions of the two directives.

Inspectors' opinion of the legislation does not influence their enforcement style. The opinion of the enforceability of the SDS directive is more positive, yet the enforcement style is more passive.

11.3 The regulated

11.3.1 *The Seveso II companies*⁷

a) Characteristics of the chemical companies

The group of Seveso II companies is comparable within all four Member States. In all four countries, the group of companies that are considered to be "Seveso II establishments" is relatively small. In the Netherlands there are about 350 Seveso II establishments, in Spain about 450, in Great Britain about 1300 and in Germany about 2000.⁸ A consequence of the small size of the group is that these companies are visible to the inspectors. The regulation of the topic of major accidents in the Seveso II directive stimulates this high visibility. Since the topic of this directive is considered to be salient and the number of companies is low, the Seveso II companies are visible to the inspectors. In all four Member States, inspectors know all, or almost all, companies that belong to the group of Seveso II compliers. In some countries (the Netherlands and Great Britain), inspectors were even able to hand over a complete list with the name and territori-

The relatively small size of the group of Seveso II companies and thus their high visibility might explain the intensive Seveso II enforcement practice.

al concentration of all national ‘Seveso II establishments’. This small size of the group and thus high visibility might form an important part of the explanation why the Seveso II directive in general shows an intensive enforcement practice and rather insistent enforcement style. Due to the small size and high visibility it is rather easy for the inspectors to keep track of which companies still or again need to be inspected.

Generally speaking, companies that have to comply with the Seveso II directive are rather large companies. The directive only applies to companies that house a large quantity of dangerous chemical substances and this is mainly the case in larger companies. The rather insistent Seveso II enforcement style does not seem to confirm the presupposition within the literature that inspectors will show a more co-operative attitude when enforcing legislation in larger companies.

The territorial concentration of groups of companies seems to form an explanation for differences in enforcement styles within countries. Both in the Netherlands and in Spain areas with many Seveso II companies – the Rotterdam harbour area in the Netherlands and Catalonia in Spain – show a more insistent enforcement style than areas with fewer Seveso II companies. According to respondents in both countries, inspectors working

The territorial concentration of many Seveso II establishments in one region influences the enforcement style; densely Seveso-populated areas show a more insistent enforcement style.

in areas with many Seveso II establishments are better informed and organised than inspectors working in areas with only one or a couple of Seveso II companies. Simply because of the presence of more expertise and experience, these ‘densely Seveso-populated areas’ take the lead compared to other areas. Slightly more than half of all Dutch Seveso II establishments can be found in the Rotterdam harbour area and approximately a quarter of all Spanish Seveso II companies can be found in Catalonia. This might explain the slightly more insistent enforcement style in these regions. It might thus explain why Catalonia leads the way with the setting up of assessment structures.

b) Companies’ opinion of the inspectors

Table 11.7: Companies’ opinion of the Seveso II inspectors (answers in percentages; number of respondents in brackets)

	NL		GB		E	
Inspectors are competent enough.	48	(27)	56	(9)	83	(6)
Inspectors do not impose rules without listening to us.	56	(25)	67	(9)	83	(6)
Our inspectors are not stricter than those in other countries.	73	(22)	12	(8)	67	(3)
There are no problems with the enforcement style of inspectors.	65	(23)	57	(7)	100	(6)

Overall, Spanish companies are the most positive about inspectors. They consider the inspectors to be competent enough, are not of the impression that they impose rules without listen to them and they do not feel that Spanish inspectors are stricter compared to inspectors in

other countries. None of the Spanish respondents mentioned to have any problems with the enforcement practice of inspectors. Dutch and British companies, however, have a less positive opinion of the inspectors. They are rather negative about the level of competence of inspectors. Especially Dutch upper tier establishments are not fully convinced about the qualities of the inspectors. Some of the larger multinationals that were interviewed were of the impression that inspectors visit them to learn and are not fully equipped to adequately assess the compliance of companies with this type of legislation. This complaint is also heard in British companies: *'The companies with a high international profile; they are using these companies to actually develop their system for them, they use this as learning ground.'* Both Dutch and British companies are more positive about the level of competence of the labour inspectorate (HSE in GB) than they are about the level of competence of environmental inspectors. Especially British companies are of the impression that their inspectors are stricter compared to those in other countries. They base this impression on the strict charging regime that the British government introduced.

As well, there are quite some companies in these two countries that claim to have problems with the enforcement style of the inspectors. A few of the Dutch respondents complained that inspectors are too inflexible and inspections take too much time. Especially labour inspectors are considered to be too formal and too much focused on minor issues. They often tend to lose the aim of the directive, safety, out of sight and focus too often on small details. Also British companies state to have problems with the enforcement of the Seveso II directive. Some operators are of the impression that the HSE and EA inspectors are not co-operating to the full. They sometimes feel that they have to explain certain aspects twice because of a lack of communication between both enforcement agencies. They also have problems with the extent to which HSE inspectors ask for minor details. They feel that this does not contribute to the goal of the Seveso II directive.

Dutch and British companies have more critique on the inspectors compared to Spanish inspectors but they do show a higher workload when complying with the Seveso II directive. It seems that their rather negative opinion of the level of competence and the enforcement style of the inspectors does not negatively influence their compliance practice. There does seem to be a relationship, however, between the opinion of companies of inspectors and the enforcement style. Both countries that showed a more insistent enforcement style (NL & GB) also both show a rather negative opinion of companies of the enforcement practice. It seems that an insistent enforcement style leads to a negative opinion.

c) Companies' opinion of the legislation

Table 11.8: Companies' opinion of the Seveso II legislation (answers in percentages; number of respondents in brackets)

	NL		GB		E	
Demands are clear.	71	(28)	60	(10)	100	(7)
Demands are reasonable.	86	(28)	67	(9)	100	(7)
Demands are not too detailed.	21	(28)	40	(10)	50	(6)
Demands are realistic	86	(28)	50	(10)	100	(6)
Demands are easy to comply with.	86	(28)	30	(10)	71	(7)
Demands add to our company standards.	25	(28)	80	(10)	43	(7)

The opinion of companies of the Seveso II legislation differs between the three Member States. Generally speaking, the presupposition that a positive opinion of legislation stimulates compliance efforts and a negative opinion results in disinterest and thus no compliance is not confirmed by the Seveso II case. The opinion of companies of the legislation does not seem to explain their efforts to comply with the Seveso II directive. British companies are the most negative about the legislation whereas they show an intensive compliance practice. Spanish companies are the most positive yet they pay the least effort to comply. Dutch companies consider the Seveso II legislation to be the most detailed. The adding of requirements by the Dutch government when transposing the directive might cause this. As well, Dutch companies are the most negative about the extent to which the directive adds to their own company standards. Yet the Dutch compliance practice is the most intensive; Dutch companies on average spent the most time on the writing of their safety report. A negative opinion of the effect of the legislation thus does not automatically result in low compliance efforts.

The opinion of companies of the Seveso II directive does not influence their compliance efforts. A positive opinion does not automatically lead to high compliance efforts.

11.3.2 *The safety data sheets companies*⁹

a) *Characteristics of the chemical companies*

In none of the four Member States the regulators were able to estimate the total number of companies that have to comply with the safety data sheets directive in their country. Both governmental and industrial respondents claimed that it is impossible to estimate the total number of SDS companies. Expected is that in each country there are thousands of companies that have to comply with the SDS directive. The large number of compliers and the low risks regulated by the SDS directive – the topic is not considered to be salient – together lead to a low visibility of the SDS companies. This might form a part of the explanation why the directive in general shows a rather passive enforcement practice.

The large number and low visibility of companies that have to comply with the SDS directive might explain the rather passive enforcement style.

The size of the companies that have to comply with the SDS directive is so diverse that this characteristic does not say anything about enforcement styles or compliance practices. Both small companies that only house one dangerous product and large multinationals have to compile safety data sheets. Nor does the territorial concentration of the companies seem to influence the enforcement or compliance practices.

*b) Companies' opinion of the inspectors**Table 11.9: Companies' opinion of the SDS inspectors (answers in percentages; number of respondents in brackets)*

	NL		GB		E	
Inspectors are competent enough.	27	(11)	63	(8)	83	(6)
Inspectors do not impose rules without listening to us.	44	(9)	90	(10)	34	(9)
Our inspectors are not stricter than those in other countries.	89	(9)	100	(2)	0	(6)
There are no problems with the enforcement style of inspectors.	56	(9)	100	(9)	100	(8)

Dutch companies show a more negative opinion of the inspectors than German and British companies do. A high percentage of the companies is negative about the level of competence of the inspectors; only 27% is of the impression that the Dutch inspectors are competent enough to enforce the safety data sheets directive. Especially larger companies feel they have more knowledge on the content of the sheets than inspectors have. They claim that the expertise of inspectors and the instruments they use to check the sheets are of too low quality. Some of the companies that were interviewed complain that inspectors only focus on larger and more visible companies. They claim that inspectors tend to visit companies that already have a good system and focus on minor aspects that could be improved. Instead, these companies argue, inspectors could much better visit smaller companies that have never been inspected yet. Despite this criticism, Dutch companies are not of the impression that their inspectors are stricter than those in other countries are. British companies do have this impression, which is rather surprising since the HSE – apart from the special project – hardly enforce this topic. Overall, there seems to be a relation between the rather insistent enforcement style of the Dutch inspectors and the negative opinion of the regulated of these inspectors.

Dutch companies negatively judge the competence of inspectors and criticise their formal and strict enforcement approach.

*c) Companies' opinion of the legislation**Table 11.10: Companies' opinion of the SDS legislation (answers in percentages; number of respondents in brackets)*

	NL		GB		E	
Demands are clear.	75	(20)	95	(19)	88	(17)
Demands are reasonable.	80	(20)	84	(19)	76	(17)
Demands are not too detailed.	65	(20)	74	(19)	71	(17)
Demands are realistic	70	(20)	90	(19)	82	(17)
Demands are easy to comply with.	70	(20)	95	(19)	71	(17)
Demands add to our company standards.	50	(20)	71	(17)	35	(17)

Companies, generally speaking, are rather positive about the safety data sheets legislation. There are no extreme differences between companies in the different countries. Nor are there large differences between companies that produce only a couple of sheets and companies that produce thousands of sheets. Larger companies are slightly more positive than smaller companies are. Overall, companies that have to comply with the safety data sheets directive are positive about this legislation.

11.3.3 *Seveso II and safety data sheets companies compared*

a) Characteristics of the chemical companies

The total size of the group of companies that have to comply with a directive and the saliency of the topic that is regulated influence the *visibility* of these companies. If the group of regulated is rather small and the topic with which they have to comply is salient they are easier to locate for inspectors compared to a large group of regulated that have to comply with a non-salient topic. In this respect, there is an important difference between the Seveso II and SDS directives. The group of Seveso II companies is smaller and the topic more salient compared to the group of companies that potentially have to comply with the safety data sheets directive.

The studied enforcement practices in this research show that this aspect of group-size is of large influence. The small group-size and high visibility partly explain why, in general, Seveso II companies have more chance of being visited compared to SDS companies. All Seveso II respondents have been visited at least once. Inspectors, in all four Member States, visit Seveso II upper tier establishments at least once during the writing of the safety report and inspect these companies at least once a year. Safety data sheets companies are visited much less frequently, if visited at all. On average, only less than half of the SDS company-respondents have ever been inspected for this topic. Of course the nature of the Seveso II directive also forms an explanation for the higher frequency of Seveso II inspections – the directive clearly states that upper tier establishments have to be inspected at least once a year – but their higher visibility also explains why they are visited more often. Inspectors generally know all Seveso II companies and therefore can keep track which ones they have already visited and which ones still, or again, need to be inspected. For safety data sheets it is harder for inspectors to keep track which companies they already visited and which ones they did not yet visit since they do not know all companies that have to comply with the SDS directive. Therefore the smaller size and higher visibility of the group of Seveso II companies explains the higher intensity of Seveso II inspections compared to safety data sheets and thus forms a part of the explanation why the Seveso II enforcement style generally is more insistent than the SDS enforcement style is.

The smaller size and higher visibility of the group of Seveso II companies explains why they have a higher chance of being inspected.

The group-size can only explain differences between both directives and not between Member States since the group-size of both directives is similar within the four countries. It can also only explain differences in the intensity of inspections; it does not say anything about differences in compliance practice or compliance costs.

The group-size can only explain differences between both directives and not between Member States since the group-size of both directives is similar within the four countries. It can also only explain differences in the intensity of inspections; it does not say anything about differences in compliance practice or compliance costs.

b) Companies' opinion of the inspectors

Generally speaking, companies are rather positive about the inspectors. In both cases, Dutch companies are slightly more negative about the inspectors – especially about their level of competence and their enforcement style – than companies in the other Member States are.

This opinion of companies does not seem to influence their compliance practices. In the case of Seveso II Dutch and British companies are less positive than Spanish companies are, yet they show a more intensive compliance practice. The opinion of companies of the inspectors does seem to be related to the enforcement style. Both directives show that the countries with the most insistent enforcement style show the most negative opinion of companies of the inspectors. The more legalistic the enforcement style, the more negative companies are about the enforcement style of inspectors.

The opinion of companies of the inspectors does not seem to influence their compliance practice.

c) Companies' opinion of the legislation

The overall opinion of companies of both directives is rather comparable when it concerns the reasonability and realism of the requirements and the question whether the demands add to the already existing company standards. On some aspects, however, the opinions of companies differ between both directives. As could be expected seen the nature of both directives, the Seveso II legislation is considered to be more detailed than the safety data sheets legislation is. As well, the SDS directive is considered to be more clear in its demands and easier to comply with. The opinion of the directives does not influence the compliance efforts of companies. In both cases, companies generally speaking conform to the requirements within the directives.

The SDS directive is considered to be less detailed, more clear in its demands and easier to comply with.

11.4 Conclusion: the impact of 'street-level actors'

Overall, the opinion inspectors and companies have of the legislation does not seem to influence their enforcement or compliance practices. A positive attitude of inspectors towards a directive does not trigger them to enforce more intensively. Nor does a negative opinion of companies of the legislation negatively influence their compliance efforts. The Seveso II case shows a negative opinion of British companies of the directive combined with an intensive compliance effort. Perhaps the huge workload related to the Seveso II directive negatively influences companies' opinion of this legislation? The low visibility of infringements, according to inspectors, does seem to explain the rather low sanctioning rate related to both directives.

Opinions, either of the legislation or of each other, hardly influence the enforcement styles of inspectors or compliance efforts of companies.

Nor does the opinion that both groups have of each other seem to influence their enforcement or compliance practices. A negative opinion of inspectors of the regulated – especially of the compliance rate of the regulated – does not trigger them to adopt a more intensive or insistent enforcement style. Companies are more negative about inspectors in countries with an insistent enforcement style. This does not influence their compliance efforts, however.

Characteristics of inspectors and chemical companies, however, do seem to explain some of the differences between the four Member States or between both directives.

The size of the group of the regulated forms a part of the explanation for the overall more insistent Seveso II enforcement style. Since the directive regulates a topic that is considered salient and only relatively few companies fall under this directive, the Seveso II companies are highly visible. This might explain the rather insistent enforcement style related to this directive. For the safety data sheets directive the opposite applies. This directive regulates a less important topic and there are thousands of companies per country that have to comply with this legislation. This makes the SDS companies less visible and thus hard for inspectors to keep track of their compliance rates. This might form a part of the explanation why the safety data sheets directive shows a somewhat passive enforcement style.

Characteristics of the inspectors especially seem to be of influence when it concerns a non-salient topic. These characteristics are less important in the explanation of differences between the Member States in case of the Seveso II directive than they are in case of the safety data sheets directive. In order for a less important topic to be enforced, it might be helpful – as the SDS case showed in the Netherlands – to have inspectors with an appropriate background, enough time and low discretion.

Notes

- 1 For more information on the variables, see chapter 2, section 2.3.4.
- 2 The workload and amount of discretion of inspectors are not so much ‘characteristics’ of the inspectors, but do form a part of the street-level activities and are therefore described in this chapter.
- 3 In this chapter it is important to realise that all Seveso companies also have to comply with the SDS directive since they automatically house dangerous products. Not all SDS companies are Seveso companies, however. In this research ‘Seveso II companies’ are the questionnaire respondents that completed the questionnaire on the Seveso II directive and ‘SDS companies’ are the questionnaire respondents that completed the questionnaire on safety data sheets.
- 4 In the case of Germany, the percentages only represent Bavarian inspectors.
- 5 Since the British inspectors were almost all drawn from the ‘Health and Safety Executive’ and there were only a few respondents from the ‘Environment Agency’, the percentage of inspectors with an environmental background in practice is likely to be higher in Great Britain than this table shows.
- 6 There is no information available on German inspectors since there are no German respondents. The information on Great Britain is based on the inspectors who participated in the northern region project. The information on Spain only covers Andalucia and Valencia.
- 7 There are no German company respondents.
- 8 In Germany there are slightly more Seveso companies not just because of the large size of the chemical industry, but also because the thresholds of allowed chemicals were lowered during the transposition.
- 9 There are no Spanish company respondents.

Chapter 12

Explaining differences in enforcement styles and compliance costs

12.1 Introduction

The preceding four chapters offered four categories of variables that might provide an explanation for differences between Member States in enforcement styles and compliance costs. It has to be kept in mind, however, that this study is of an explorative nature and thus does not offer a final explanatory model. Within all four categories – saliency, legal design, organisational structure and street-level actors – possible explanations have been found. Which of these explaining variables seem to be the most important in offering an answer to the question what factors lead to differences in enforcement and compliance? What factors seem to be most important in explaining why the Netherlands is the only country to adopt a relatively insistent enforcement style when enforcing the safety data sheets directive? And what might be the main explanation for the low compliance costs for Spanish Seveso II companies compared to British and Dutch establishments?

12.2 Explaining differences in enforcement styles

12.2.1 *The Seveso II directive*

The Seveso II directive is actively enforced in all four Member States. In all countries actors are assigned as ‘competent authorities’ to see to it that the directive is complied with. Although the frequency and intensity might differ, inspections actually take place and safety reports are being assessed. The first obvious and simple explanation for the active enforcement practices is that the directive asks for this. Article 18 of the Seveso II directive (18.2a) orders Member States to set up an inspection programme and explicitly states that ‘*the programme shall entail at least one on-site inspection made by the competent authority every twelve months of each establishment covered by Article 9*’.¹ The impression is that the second and most important explanation for the active approaches is the saliency of the directive. The Seveso II directive regulates the topic of major accidents. Both the European Commission and the Member States consider this a salient topic – especially since recent accidents such as the ones in Enschede and Toulouse occurred – and therefore its enforcement is important for the Member States and thus high on everyone’s agenda.

The Seveso II directive in general is actively enforced because of its saliency.

The details and intensity of the enforcement differ however. The Seveso II enforcement styles of the Netherlands and Great Britain can be labelled as ‘insistent’, whereas the German and Spanish ones show more characteristics of a persuasive style. Especially the inspection intensity and the assessment of the safety report are more severe in the first two countries. Dutch and British inspectors almost spend twice as many days on one assessment compared to their German and Spanish colleagues. What factors explain these differences?²

The mere fact that there can be, and thus are, differences between the four Member States in how they enforce the Seveso II directive lies in the nature of the directive itself. It is a mini-

mum directive – and countries are thus allowed to add requirements during the transposition – and since some of the requirements are written down rather vaguely the directive allows for different interpretations between the countries. When transposing Seveso II, the various countries interpreted the directive differently, which influenced the enforcement practices.

Differences between the Member States in Seveso II enforcement practices are stimulated by the nature of the directive: a minimum directive with rather vague requirements.

As stated, an obvious dividing line between the four Member States is between the Netherlands and Great Britain with their insistent enforcement styles on the one hand and Germany and Spain with their persuasive styles on the other hand. How can these differences be explained?

There are two elements that are similar in the Netherlands and Great Britain that are not noticeable in Germany and Spain. Almost all Dutch and British inspectors received *training* on the Seveso II directive, whereas in Germany and Spain this is much less common. As well, Dutch and British inspectors have more *detailed enforcement instruments* to their disposal. British inspectors can make use of a 600-page long assessment tool and Dutch inspectors can use a detailed inspection tool. Since Seveso II is a rather complicated directive, training and guidance material is a necessity in order for inspectors to know all details and to be able to thoroughly check all requirements companies have to comply with. A lack of training and enforcement tools makes it almost impossible for inspectors to adopt an insistent enforcement style when it concerns such a complex and difficult directive.

Besides the training of inspectors and the availability of detailed tools, Great Britain shows another factor that explains the insistent enforcement style. The ‘Health and Safety Executive’ decided to set up a complete *new department* for the transposition and the enforcement of the Seveso II directive: the ‘Hazardous Installations Directorate’. Because of this investment, the management checks inspectors rather intensively to see whether their investment is justified. One interviewee mentioned that because of the setting up of the new directorate, HSE management is eager to see output in the form of charged hours and inspectors therefore enforce the Seveso II directive rather intensively.

The Netherlands did not set up a new department, but here other factors influence the insistent enforcement style. In the Netherlands three ministries (social affairs, environment and interior affairs) had a long tradition of regulating aspects related to major accident hazards or emergency planning, but all three in a different way. Especially the environmental and social affairs ministries showed deviating traditions. Whereas the social affairs ministry regulated risk prevention in a qualitative way (asked of companies to describe their risks), the environmental ministry approached this topic in a quantitative way (asked companies to calculate risks). Because of deviating traditions and approaches the three ministries found it hard to hand over responsibilities. They all considered their input crucial and did not entrust the defence of these interests to another ministry. Therefore the three ministries jointly arranged the transposition, which resulted in a decree based on three different types of legislation and thus enforcement by three different agencies. This explains the insistent enforcement style.

The already existing Dutch policy tradition made the transposition and enforcement of the directive very severe.

The involvement of *three different enforcement agencies* – that all have their own ‘hobby-horses’ to focus on – results in long and intensive inspections and a thorough assessment of the safety report. In this case, a form of distrust (and a rather unclear division of responsibilities) between the three Dutch agencies stimulates an insistent enforcement approach.³

Overall, besides the saliency the following factors stimulated the insistent Dutch and British enforcement styles:

The Netherlands	Great Britain
Training of inspectors.	Training of inspectors.
Detailed enforcement tools.	Detailed enforcement tools.
Broad policy tradition led to broad interpretation: intensive involvement of three enforcement agencies.	Setting up of a new department.

Germany and Spain show more lenient enforcement styles. Opposed to the Netherlands and Great Britain they hardly train their inspectors and there are less enforcement tools available. This leads to less intensive inspections and a less thorough assessment of the safety report. The explanation for this is simple: both countries were late with the transposition and thus late with the creation of enforcement structures. There are two specific reasons for the late transposition in both countries: (1) their already existing policy tradition (both countries show a misfit between the national policy tradition and the Seveso II directive) and (2) the decentralised structure of the state.

In Germany there was a policy misfit between the national legislation on major accident prevention (with a focus on individual installations) and the approach of the Seveso II directive (with a focus on entire establishments).⁴ This misfit was difficult to solve but Germany slowly transformed its existing practice to the new EU requirements; the legislation on installations was adjusted to the new requirements. Besides this policy misfit, Germany delayed its transposition because the federal environment ministry wanted to lower the thresholds of the dangerous substances allowed within companies (Annex I). The opposition against this by the economics ministry, industry and some southern Länder resulted in three years of negotiations and discussions. The process was also delayed because some Länder were late with their transpositions. The Länder needed to transpose the aspects related to non-commercial establishments and the external emergency plans and some of them took a long time arranging these elements.

Three factors delayed the German transposition:

- 1) A deviating policy tradition (installations versus establishments).
- 2) The wish to lower the thresholds under Annex I.
- 3) The late transposition by some of the Länder.

Spain also showed a misfit, although a slightly different one. Spain has a tradition of looking at the topic of major accident prevention from the ‘civil protection point of view’. For this country, therefore, the aspect of emergency planning is the most important one. Compared to the other three countries that focus on all aspects of the directive, Spain shows a rather unbalanced approach since it so clearly selected one element to devote its attention to. Many

aspects show the importance attached to the topic of emergency planning: the transposing actor, the legislation used, guidance material and national meetings on this topic only. Because of this tradition of perceiving the topic of accident prevention from the civil protection point of view, more attention is being paid to the emergency plans and less to the safety report. A task such as the assessment of a safety report is rather new to Spain. This explains why Spanish authorities appointed private, often foreign, bodies to execute the assessment for them.⁵ The intensity with which these private bodies assess the safety report is much lower compared to British and Dutch assessors. Spanish assessors at the most spend twenty days per assessment; for Dutch and British assessors this is only the minimum number of days. The deviating policy tradition and thus shorter experience with assessments is one of the main reasons why the Spanish enforcement style is less insistent.⁶

Because of the Spanish deviating policy tradition (focus on emergency planning) the topic of safety report assessments is rather new. This lack of experience made it necessary to appoint private agencies that spend much less time per assessment compared to the governmental assessors in the Netherlands and Great Britain.

Spain is late with the transposition because the Autonomous Communities have to enact the national Royal Decree and did not do so yet (summer 2001). The Communities are supposed to establish the practical enforcement structures such as appointing (and creating) the actors responsible for the inspection and the assessment. Without this, actual enforcement of the Seveso II directive cannot start. Only in Catalonia inspections and assessments based on Seveso II have started – although somewhat less insistent than in the other Member States – but the other Autonomous Communities, for the time being, show stagnation and their enforcement practices still are for the most part based on Seveso I. The main reason why Catalonia leads the way is the territorial concentration of the chemical industry: about a quarter of all Spanish Seveso II companies is located in this region and therefore the prevention of major accidents is more salient.

The following factors restrained the coming into being of an insistent enforcement style in Germany and Spain:

Germany	Spain
Deviating policy tradition.	Deviating policy tradition.
Late transposition.	Lack of experience with safety report assessment.
Lack of training and enforcement tools.	Late transposition.
	Lack of training and enforcement tools.

Generally speaking, the salient Seveso II directive is rather intensively enforced. Overall, two factors explain why the German and Spanish styles are less insistent than the Dutch and British ones are: (1) the *degree of fit* between the national policy tradition and the directive and (2) the *structure of the state*. In the Netherlands and Great Britain a considerable fit between the national policy traditions and the EU directive and the centralised state structures did not hinder a smooth transposition. This enabled these countries to quickly develop their enforcement structures and adopt an insistent approach.

Germany and Spain both showed a misfit between the national policy tradition and the

EU directive and they both were hindered in their transposition because the Länder and the Autonomous Communities had to transpose some of the requirements. Both aspects led to a late transposition and thus a late establishment of enforcement practices. In Germany both frustrating factors have been overcome: the policy tradition is adjusted to the new requirements in Seveso II and all Länder eventually transposed the directive. Germany was, at the time of conducting this research, setting up some enforcement tools and therefore there are no major obstacles for the German style to eventually become more insistent. Spain was not yet in the process of setting up such material. Especially Valencia and Madrid that use rather inexperienced agencies are likely to remain rather lenient in the assessment of the safety report.

A misfit between the Seveso II directive and the national policy tradition and the decentralised structure of the state hindered a smooth transposition and setting up of enforcement structures in Germany and Spain.

12.2.2 The safety data sheets directive

The enforcement of the safety data sheets directive is not high on everyone's agenda. In all four Member States only few inspectors are appointed to enforce this topic and – whenever a larger number of inspectors has been appointed – they spend only a small percentage of their time on this task. There are no full-time safety data sheets inspectors. In all cases the inspections are carried out by one inspector alone. This might be problematic since good enforcement requires multiple areas of expertise – such as knowledge of chemicals, toxins, fire-fighting measures, etc. – and this is difficult to master for one inspector only. Besides the fact that the Member States do thus not adequately enforce this directive – for complete and adequate enforcement a team of inspectors with multiple areas of expertise would be necessary – the frequency of inspections is low and they generally last only half a day. Overall, the conclusion seems justified that the enforcement of the safety data sheets directive leaves something to be desired.

Generally speaking, the enforcement of the SDS directive leaves something to be desired. The main explanation for this is that the directive is not considered to be salient.

Why is the enforcement of the safety data sheets directive generally speaking not high on everyone's agenda? There is one main explanation for the limited attention: the topic of the directive is not considered salient enough. The topic of safety data sheets as such does not receive much attention on the European or national level and many respondents – both inspectors and companies – admitted to consider this topic not very important.

However, the enforcement practice in one Member State must be evaluated in a somewhat more positive daylight. The Netherlands shows a more intensive and insistent style. It is the only country to arrange regular enforcement projects during which environmental inspectors carry out rather thorough checks of the content of the sheets. The Dutch case also shows a somewhat more intensive sanctioning practice and inspectors are less likely to feel dependent on companies. In Spain, the two Autonomous Communities Andalusia and Madrid also pay quite some attention to the inspection of safety data sheets, but the overall Spanish enforcement style cannot be characterised as insistent. The main reason for this is that the other two Communities in this research, Valencia and Catalonia,

The enforcement style in the Netherlands is somewhat more insistent than in the three other Member States.

do not enforce this directive intensively. Besides, Spanish inspectors adopt a rather lenient sanctioning approach and a dependent relation on companies. Great Britain and Germany had only one project that focused on safety data sheets up until now. The enforcement of the SDS directive in these countries depends on the interests of individual inspectors whether they find the topic important enough to enforce.

Explanations for the insistent Dutch enforcement style can be found within three of the four categories of independent variables: legal design, organisational structure, and street-level actors. As to legal design, the Dutch situation differs in three respects from that in the other Member States. Firstly, the Netherlands chose to transpose the directive in one decree alone, whereas the other countries all transposed the directive together with other topics in one piece of legislation. The existence of legislation devoted entirely to the topic of safety data sheets might influence the visibility of this topic and thus it might explain the existence of enforcement projects. Secondly, the status of the Annex of the directive differs. Whereas the other countries use the word 'guide' to indicate the Annex – as the directive does – the Netherlands chose to make it compulsory. Finally, the Netherlands chose to set up detailed and, most importantly, compulsory enforcement tools for the inspectors. In all four countries enforcement tools exist, but nowhere as detailed as the Dutch tools and in none of the other countries these tools are obligatory. The environmental inspectors are obliged to use their 'Enforcement Execution Method' that, in six steps, explains and prescribes how to carry out the SDS inspections. As well, this method prescribes when and where to impose sanctions – it is a sanctioning manual for the inspectors. This explains why the Netherlands shows a somewhat more intensive sanctioning practice than the three other Member States do.

Also within the category 'organisational structure' differences can be found between the four Member States that might explain the more insistent Dutch style. The 'Inspectorate for the Environment' is an enforcement agency divided into only a few regional offices with a high internal centralisation. One inspector decided to arrange specific projects on safety data sheets and because of the high internal centralisation all regional offices carry out the same enforcement projects. Besides, this agency organises its enforcement per specific topic and not per number of companies. All inspectors are responsible for a certain type of legislation – in this case dangerous substances legislation.⁷ In other countries, the enforcement agencies have a lower internal centralisation and they are specialised by company. This is problematic for the enforcement of a non-salient topic, which seems to be neglected when inspectors have to enforce many topics in their own set of companies. When inspectors can select inspection topics from many pieces of legislation it is unlikely that they will select a less visible and salient topic. Inspectors of the British 'Health

Explaining the more insistent Dutch enforcement style.

Legal design:

- 1) Transposition in a decree focused on safety data sheets alone.
- 2) The Annex of the directive is compulsory.
- 3) A compulsory enforcement instrument and sanctioning manual.

Explaining the more insistent Dutch enforcement style.

Organisational structure:

The Dutch enforcement agency shows a high internal centralisation and a specialisation of the enforcement by rule and not by company.

and Safety Executive', working in the 'Hazardous Installations Directorate', are responsible for a number of major hazard companies in which they have to enforce all legislation the HSE is responsible for. These HID inspectors spend almost all of their time on the enforcement of the salient Seveso II directive and have little attention for the enforcement of other, less important, legislation such as the SDS directive.⁸

In the final category of street-level actors, the personal characteristics of inspectors add to the explanation why Dutch inspectors adopt a more insistent enforcement approach. Compared to inspectors in other countries, the Dutch environmental inspectors have a more appropriate background (chemicals), have more time for the enforcement of this topic, are (almost) all trained and have a low amount of discretion. It seems that these factors stimulate them to pay more attention to the enforcement of the SDS directive. The low amount of discretion implies that inspectors have to follow agency guidelines and thus forces them to pay attention to this topic during their inspections.

Explaining the more insistent Dutch enforcement style.

Street-level actors:

Dutch inspectors have a more appropriate background, are trained, have enough time for the enforcement and have a low amount of discretion.

12.2.3 The two directives compared

The most important difference between both enforcement practices is that the Seveso II directive is more intensively enforced and inspectors generally speaking adopt a more insistent enforcement style. Seveso II inspectors in all four Member States visit upper tier establishments at least once a year – although more intensively in some countries than in others. The enforcement of the safety data sheets directive is more passive and the question whether inspections actually take place is dependent on interests of individual inspectors.

The Seveso II enforcement style generally speaking is more intensive and insistent. Why?

The impression is that there is one main explanation for this difference between both directives: the Seveso II directive is considered to be very salient whereas the SDS directive is not considered to be salient at all. The accidents in Enschede and Toulouse made people aware of the importance to strictly enforce this topic of major accident prevention. It made regulators aware that major accidents can lead to many deaths and wounded people and that legislation such as the Seveso II directive deserves a large amount of attention in the enforcement phase. The seriousness of the risks to be prevented is much higher in the Seveso II directive. The SDS directive simply is not considered important enough to enforce. Besides the saliency, it also helps that the number of Seveso II companies where inspectors have to check the compliance rate is rather small. In all four Member States inspectors know all Seveso II establishments and because of the saliency of the topic these companies are rather visible.

Accidents such as the ones in Enschede and Toulouse make the Seveso II directive highly salient. This is the main explanation for the overall rather insistent Seveso II enforcement style.

Overall, it seems that factors that cause variations in national enforcement styles differ per type of directive; more precisely, they differ depending on the saliency of a directive. It seems that there is a difference between salient and non-salient directives in the extent to which specific variables influence the enforcement style.

A high saliency of a directive results in enforcement to actually take place in practice. In all four Member States – though in some more intensively than in others – the salient directive is actively enforced. There are some differences between the Netherlands and Great Britain with their insistent enforcement styles on the one hand and Germany and Spain with their persuasive styles on the other hand. In the Netherlands and Great Britain a fit – or the absence of a clear misfit – between the national policy practice and the EU directive and a centralised state structure enabled quick transposition. A training programme and enforcement tools enabled the inspectors to adopt an insistent enforcement style. In Germany and Spain a misfit between the national policy tradition and Seveso II and the involvement of sub-national governments resulted in a delay in transposition and thus a delay in the establishment of enforcement practices.

Directives that are not considered to be important depend on certain requirements in order for enforcement to actually take place. One would expect that it is rather easy for inspectors to adopt a legalistic enforcement style when they have to enforce a directive that is understandable, enforceable and leads to clear infringements. The SDS directive, however, shows that such an opportunity is not necessarily realised. The topic of the directive is simply not considered important enough. Opposed to salient directives, a fit or misfit between the directive and the national policy tradition is less important in the case of non-salient directives. Specific characteristics of enforcement agencies and individual inspectors become more important. The case of the Netherlands shows that directives that are not considered to be important have more chance of being enforced under the following conditions:

- a) The legislation is focused on the topic of the directive alone and there are detailed and compulsory enforcement and sanctioning instruments.
- b) Enforcement agencies have a high internal centralisation and the enforcement is specialised by rule and not by company.
- c) Inspectors have an appropriate background, specific training on the topic of the directive, enough time for the enforcement, and a low amount of discretion.

A salient directive generally speaking is intensively enforced. The enforcement style can be restrained in its insistence because of two reasons:

- 1) A misfit between the national policy tradition and the EU directive.
- 2) A decentralised state structure and thus the need to include sub-national governments in the transposition process.

A non-salient directive generally speaking is not intensively enforced. The enforcement style is more likely to be insistent under the following conditions:

- a) The legislation is focused on the topic of the directive alone and there are detailed and compulsory enforcement and sanctioning instruments.
- b) Enforcement agencies have a high internal centralisation and the enforcement is specialised by rule and not by company.
- c) Inspectors have an appropriate background, specific training on the topic of the directive, enough time for the enforcement, and a low amount of discretion.

12.3 Explaining differences in compliance costs

12.3.1 *The Seveso II directive*⁹

In general, companies find the directive hard to comply with; they consider the Seveso II directive to be unnecessarily complex. They complain about the workload that the making of a safety report entails. Especially smaller companies see it as an enormous task. There are differences as well as similarities between the Member States in how upper tier establishments comply with the Seveso II directive. The main similarity between Dutch, British and Spanish companies is that most of them started to write their safety report in 2000 and appointed a special department for this activity: usually a 'safety, health and environment department'.

The way in which companies carry out this making of a safety report differs between the countries. It seems that British companies more often comply with the Seveso II directive themselves whereas in the Netherlands and Spain it is more common to outsource some of the requirements. A similarity between the three countries is the one topic that companies outsource: the risk analysis. Expensive computer programmes are needed for such a risk analysis and companies do not want to buy this for only one risk analysis. The main reason why British companies more often make the safety report themselves is that British inspectors discourage companies from outsourcing the writing of the report. British inspectors believe that safety reports written by external consultants are never as good as safety reports made by the internal company personnel.

Overall, Dutch companies have the highest workload when complying with the Seveso II directive – and thus the highest compliance costs – and Spanish companies have the lowest workload and compliance costs. Dutch companies appointed the most personnel to make the safety report and spent the most time in total to complete this report. On average, they spent 12 months with 4,5 people to make a safety report. This is more than the average of 9 months with 3 employees in Great Britain and certainly more than in Spanish upper tier establishments with their average of 3 months with 2,5 employees. British companies have the highest costs directly imposed by the government. How can these differences in compliance costs be explained?¹⁰

The differences can to a large extent be explained by the nature of the directive. Since Seveso II is a minimum directive, Member States were allowed to add requirements. Countries have done so in a different way and to a different extent.¹¹ The nature of the directive thus allowed for differences in transposition. These *differences in transposition* to a large extent provide an explanation for differences in workload and compliance costs.

In Spain, the transposition made clear that the interpretation of the Seveso II directive is different from other Member States. The strong emphasis on civil protection, and thus on emergency planning, in Spain somewhat overshadows the attention for the safety report. Emergency planning is more important than the safety report is. There is guidance available on the topic of emergency planning but not for the safety report. This relatively little attention for the safety report by the government might explain why it is less important for Spanish companies as well. If the government does not emphasise the topic, it is unlikely that companies will do so.

Transposition as explaining factor:

Spain transposed the directive into civil protection legislation, which shows its high emphasis upon emergency planning and thus relatively low emphasis on the safety report.

The high costs directly imposed by the government in Great Britain can also be explained by the transposition. When transposing the Seveso II directive, the British government decided to charge companies for the work of inspectors. The high costs for British companies imposed by the government can simply be explained by this charging regime; companies are charged at a rate of 165 euro per hour. Since British companies can expect most man-days per inspection and a high number of man-days per assessment, these costs can be considerable.

Transposition also explains the high workload and compliance costs in the Netherlands. In the Seveso II transposition, the Dutch government emphasised the safety report – most of all the scenarios that companies have to develop. Whereas the EU directive is rather vague on this point, the Dutch legislation that transposes the directive is much clearer towards both inspectors and companies about what is expected with regard to these scenarios. Besides, the government introduced the ‘Quantitative Risk Analysis’ and made it compulsory for all upper tier establishments. This meant many extra calculations for the companies.

Transposition as explaining factor:

Great Britain introduced the charging regime, which explains the high costs imposed by the government

Besides the difference in transposition there is one other factor that explains differences in compliance costs: there seems to be a relation between the enforcement style and the compliance costs of companies. The latter are higher in the countries with an insistent enforcement style. The legalistic style of assessing the safety reports in the Netherlands and Great Britain and the intensive inspections within these countries, seem to influence the height of the compliance costs of Seveso II companies. The slightly less insistent enforcement style in Spain goes together with a less extensive compliance practice, and thus lower compliance costs, of Spanish upper tier establishments. The form of the *transposition* – the extent to which Member States add requirements – and the dominant *enforcement style* in a country thus are the main determinants of compliance practices and compliance costs.

Transposition as explaining factor:

The Netherlands extended the requirements related to scenarios and added the element of QRA.

12.3.2 *The safety data sheets directive*

The way in which companies generally organise their compliance with the safety data sheets directive does not show extreme differences between the Member States. The differences that do exist are mere nuances. It is rather uncommon for companies to outsource all their SDS requirements. In all Member States, the topics that companies do outsource – if they outsource anything at all – are the making of the required software programme and the gathering of specific information via a subscription to a database. Most companies appointed a special department to make the sheets. Larger companies with sites in multiple countries usually have one department where all the sheets are made. Akzo Nobel, for example, has one site in the Netherlands that makes safety data sheets for all sites all over the world. Companies in all countries often use the EU directive itself as a form of guidance and differences between the Member States in whether or not they set up guidance material for the companies on how to make sheets are less important therefore.

The workload of companies when complying with the safety data sheets directive cannot be described per country, but have to be measured according to the number of sheets companies produce. Logically, companies with more sheets have a higher workload and thus more compliance costs compared to companies that only have to produce a couple of sheets. Companies that produce less than 100 sheets on average spend 23 hours per week on making, revising and distributing the sheets and spent approximately 9.000 euro on their software system to make the sheets. Companies that produce more than 1000 sheets show much higher numbers. They, on average, spend 126 hours per week on compiling sheets and spent 300.000 euro on their software system. The costs imposed by the government can be compared between the Member States and are in all cases negligible. Inspections are scarce and if they do take place, they hardly take up much of the companies' time and companies are not charged.

There are not many differences between companies in various countries in how they comply with the safety data sheets directive.

The comparison of the SDS compliance practices and compliance costs shows that there are more differences between companies than there are between countries. The safety data sheets directive is a maximum directive and thus there hardly are any differences between the Member States in how they transposed this directive.¹² The enforcement practices do differ slightly between the countries, but overall – due to the low importance attached to the directive – it can be stated that the SDS directive is not high on everyone's agenda and not enforced to the full. The slightly more insistent enforcement style in the Netherlands does not lead to higher costs for companies when complying with this directive. Perhaps Dutch companies have a slightly higher chance of being inspected for safety data sheets, but there are thousands of companies that have to have the sheets and only eight to ten environmental inspectors to actively enforce this topic and thus it does not lead to higher compliance costs. Overall, the rather passive enforcement styles do form the main explanation for the absence of costs directly imposed by the government in all four Member States. The only element that influences compliance costs of companies is the number of sheets they have to produce and their own effort they put into complying correctly.

Costs related to the workload depend on the number of sheets companies have to make. Costs imposed by the government are negligible in all countries because of the rather passive enforcement styles.

12.3.3 *The two directives compared*

Comparing the two directives in compliance practices and compliance costs is hard. Both case studies seem to show that in general the chemical industry takes its compliance with EU legislation regulating dangerous substances seriously. Both directives, whether salient or not, are complied with.¹³ The saliency of a directive thus seems to be of more influence on the enforcement styles than it is on compliance practices. Even though the SDS directive is not considered to be salient, companies generally speaking do comply with the requirements. Saliency thus does not seem to influence compliance efforts. Nor do the opinions of companies of the inspectors or of the legislation influence their efforts to comply.

The saliency of a directive does not seem to influence compliance practices.

Overall, it is more work to set up a safety report than it is to make safety data sheets.¹⁴ Generally speaking, the requirements that companies have to conform to are more demanding in the Seveso II directive than they are in the SDS directive. The more elaborate nature of the directive thus explains why Seveso companies, on average, have a higher workload and higher compliance costs.

Only in the case of Seveso II differences in compliance practices and compliance costs between Member States can be found. The two factors that explain these differences are ‘transposition’ and ‘enforcement style’. The Seveso II case showed that added requirements during the transposition and an insistent enforcement style lead to higher compliance costs.

The more insistent the enforcement style, the higher the compliance costs of companies.

In the case of SDS there hardly are any differences between the Member States in compliance costs since the costs are more related to the number of sheets a company has to produce. These companies hardly have any costs directly imposed by the government since they are only rarely inspected for their safety data sheets and are not charged for these short visits. Thus, the rather passive enforcement styles lead to low (or absent) costs imposed by the government. Overall, the conclusion seems justified that a legalistic enforcement style makes compliance costs for companies – especially those costs directly imposed by the government – higher and a passive enforcement style results in low or no costs at all.

Notes

- 1 The establishments covered by Article 9 are the upper tier establishments.
- 2 This research shows that there are also minor differences within Member States in how the Seveso II directive is enforced. This section mainly concentrates on differences between Member States, however, since these differences are more obvious and noticeable.
- 3 It could be expected that this positive effect of distrust is mainly triggered by the saliency of the Seveso II directive. It might be that such distrust and an unclear division of responsibilities would have a more negative result if it had concerned a non-salient directive.
- 4 For more information on this difference in approach, see chapter 4, section 4.3 and chapter 9, section 9.3.1.
- 5 The authorities make the external emergency plans themselves. For this topic sufficient experience is available because of the 'civil protection policy tradition', and thus there is no need to delegate this task.
- 6 Would this research have focused on emergency planning, Spain would have shown a more insistent enforcement style. Spain is the only country that added requirements related to the topic of emergency planning. All Seveso II companies have to produce emergency plans whereas in the other three countries only the upper tier establishments have to produce these.
- 7 These elements can also be found in the Spanish agencies, which might explain the more intensive inspection style in Andalucia and Madrid.
- 8 Several respondents claimed that this will change in the future. When most safety reports are assessed, inspectors will again have more time for other legislation.
- 9 The comparison of compliance practices and compliance costs of Seveso II upper tier establishments could only be made in three of the four Member States. There is no information on the German companies since they started to write their safety report much later than Dutch, British and Spanish companies did. The main reason for this is the late transposition of the Seveso II directive in Germany and the transition from individual installations (Seveso I) to entire establishments (Seveso II). Due to this change in the nature of the legislation most German companies are seen as new Seveso companies and thus had a deadline of one year later compared to most Dutch, British and Spanish upper tier establishments. Therefore, at the time of conducting this research, most German companies did not yet complete the writing of their safety report and the comparison is thus based on three of the four Member States.
- 10 Chapter four already showed that the differences in workload can not be explained by differences in size of the questionnaire respondents. Spanish respondents are slightly larger, yet have considerably lower costs.
- 11 The added requirements in Germany do not lead to extra costs for companies. Some of the thresholds were lowered in Germany; this leads to potentially more companies to be included in total but not to more requirements per company.
- 12 The only exception being the Netherlands with a stricter interpretation of the Annex.
- 13 However, in general companies are more positive about their own compliance rate than inspectors are about the compliance practice of companies.
- 14 Of course a company that produces more than a thousand dangerous substances and preparations also has quite some work to comply with a relatively small directive such as safety data sheets.

Part IV
Conclusions

Chapter 13

Conclusions

13.1 Enforcement matters

This book started with a quotation from Colchester and Buchan, that ‘*uneven implementation of EC rules could distort competition across the market quite as much as having no rules at all*’. (Colchester and Buchan, 1990: 132) The study of the Seveso II directive shows that there is indeed uneven transposition and enforcement of a European directive, that that entails different costs for companies in different countries and that that could distort competition across the chemical industry.

This case shows the importance of being clear about the concept ‘implementation’. Implementation comprises several elements or phases that all have to be identified by a different term. Particularly ‘transposition’ and ‘enforcement’ have to be distinguished. Uneven implementation may distort competition across the market, but different phases leave different traces. Transposition and enforcement determine what actually gets realised from regulation. They determine whether and to what extent the ‘law in the books’ actually becomes ‘law in action’.

Transposition allows Member States to interpret a directive differently and to some extent change words or concepts or – in the case of minimum directives – add requirements. The minimum Seveso II directive shows that countries vary in the extent to which they add requirements, which results in different obligations to comply with for companies across the Union. The safety data sheets directive shows that Member States can interpret a concept differently. Whereas other countries interpreted the word ‘guide’ in the Annex in a voluntary fashion as ‘an example’, the Netherlands considered it a compulsory element that companies must conform to.

These differences in transposition influence the way in which Member States enforce the legislation. The national transpositions, as Kagan puts it, ‘*provide the blueprint that sets forth their mission and define the tools they can use*’. (Kagan, 1994: 390) Both directives have shown the impact of enforcement styles on compliance practices and compliance costs. Seveso II shows that companies in countries with an insistent enforcement style have higher compliance costs. Enforcement could be called the *Achilles heel* of European regulation. It is the phase of implementation that potentially leads to most differences and deserves more attention therefore.

The European Commission, as the ‘guardian of the Treaties’ has the task to ensure that the Member States actually apply the rules. Does the Commission correctly execute this task? Only to a certain extent. The Commission’s attention to correct application stops after transposition. It does keep track of transposition and automatically starts the infringement procedure against Member States that are late or did not notify the Commission about their transposition. Also in the literature, transposition receives a considerable amount of attention. There are many empirically founded findings on national transposition practices with which this study agrees.¹

According to Siedentopf and Ziller, the Netherlands and Great Britain often use secondary legislation to transpose EU directives (Siedentopf and Ziller, 1988a: 54). The two direc-

tives confirm this. Great Britain used regulations and the Netherlands transposed both directives via decrees. The British reputation of literal transposition is also confirmed: large parts of the texts from the directives can be found literally in British legislation. The Dutch organisational problems with appointing the responsible ministry and arranging for co-operation between ministries, that often seem to cause a delay, were present in the transposition of these two directives as well. In both cases it took a long time to decide on the main responsible ministry. Other ministries were unwilling to hand over responsibilities, which honours the Dutch reputation as the '*Republic of the Fourteen Disunited Departments*' (Andeweg, 1988: 132).

Spain is often considered to transpose EU directives rather literally via secondary legislation. Both cases confirm this; the Spanish 'Royal Decrees' are literal translations of the two directives. And the mentioned problem with the competencies of the Autonomous Communities was present in the transposition of the Seveso II directive. As La Spina and Sciortino observed, the presence of multiple decision layers delayed transposition (La Spina and Sciortino, 1993: 224). The Spanish government was quick with the transposition on the national level, but the Autonomous Communities had three years later still not enacted their regional decrees to further implement the national legislation.

Like Spain, Germany also shows a more complicated transposition process because of the federal division of competencies. This complicated and delayed the transposition of the Seveso II directive. The expected different German transposition process – more use of primary legislation and more use of already existing legislation (Siedentopf and Ziller, 1988a: 54) – was also confirmed. Both directives were transposed into already existing legislation and Seveso II was partly transposed via primary legislation. Siedentopf and Ziller found that the already existing German legislation often showed stricter demands than the EU legislation. This study confirms this; the already existing ordinance that transposed Seveso II allowed lower thresholds for chemical substances.

The Commission itself admits in its White Paper on 'European Governance' that '*the impact of European Union rules depends on the willingness and capacity of Member State authorities to ensure that they are transposed and enforced effectively, fully and on time*' (COM(2001) 428: 25). However, the Commission does not control enforcement. It does not know what happens with EU rules at the 'street level'. In some cases it is aware of the enforcement agencies involved, but what actually goes on within the Member States is a big puzzle for the Commission. The Achilles heel of EU regulation is a *black box* for the Commission.

13.2 Differences in enforcement

Looking into the black box of national enforcement practices shows that many differences can be found; differences in nature, degree, and precision. Both the Seveso II and safety data sheets directives are enforced differently in the Netherlands, Germany, Great Britain and Spain.² Differences in enforcement have been operationalised by classifying the countries in one of the following four styles (see chapter 2, section 2.1.2):

- 1) Passive enforcement style: an extremely lenient style where the inspector does not dare or care to undertake action against the regulated that do not comply with the legislation. This style is characterised by a low inspection intensity, a lack of sanctioning and a high degree of dependency of inspectors on companies.
- 2) Persuasive enforcement style: a rather lenient style with an emphasis on explaining the law and discussing possible solutions to undo infringements with the regulated. The aim

is to persuade companies to comply with the law. Inspections do take place, but inspectors are merely there to advise companies and sanctions are only seen as a last resort.

- 3) Insistent enforcement style: a mixture between a lenient and a legalistic approach. Inspectors will first try to persuade companies, but are not afraid to sanction when necessary. The inspection intensity is rather high and inspectors do not feel dependent on companies.
- 4) Legalistic enforcement style: a strict style where inspectors do not give the regulated second chances but punish immediately. Inspectors check all details and the inspection intensity is extremely high. Companies have the impression that inspectors impose rules without listening to them.

The Seveso II enforcement is in all four countries characterised by a relatively high inspection intensity, especially in the Netherlands and Great Britain. These both countries also show a legalistic approach in assessing the safety report, particularly stimulated by a high number of assessors, a high number of man-days per assessment, and the assessors use a detailed assessment tool intensively. Dutch and British inspectors spend on average twenty to fifty man-days per assessment, whereas German and Spanish inspectors spend twenty to thirty days at the most. Sanctions are rare in all four Member States; inspectors warn companies whenever they notice a Seveso II related infringement. Inspectors admit that they feel rather dependent on the upper tier establishments for receiving all information necessary for a correct check on compliance. The enforcement style can be labelled 'persuasive' in Germany and Spain and 'insistent' in the Netherlands and Great Britain.

Compared to Seveso II, the safety data sheets enforcement is much more passive. Active enforcement hardly takes place. Only in the Netherlands and in Spain in Andalusia and Madrid are there specific projects that focus on safety data sheets. Great Britain and the three German Länder executed only one project up until summer 2001 in which the topic was touched upon. Enforcement depends on personal interests of individual inspectors. Safety data sheets are only inspected when individual inspectors find the topic important enough to enforce. Only in the Netherlands can the enforcement style be typified as 'insistent'. The other three countries show a 'persuasive', almost 'passive' style. The main indicators for this difference are the higher inspection intensity, more frequent use of sanctions, and a lower dependency on companies in the Netherlands.

Overall, Seveso II enforcement is more insistent than SDS enforcement. Especially the higher inspection intensity and the greater focus on details contribute to this.

13.3 Do differences in enforcement matter?

These differences in enforcement are relevant in that they entail different compliance practices by and compliance costs for companies in the four Member States. The two EU directives affect the chemical industry in different parts of the Union differently.

Especially the Seveso II directive generates differences. Upper tier establishments in the Netherlands have the highest costs of all when writing their safety report. Dutch companies spent on average much more time on the writing of their report than companies in the other Member States. While a Dutch company spent 11 months with 4,5 employees to make a report, British (9 months with 3 employees) and Spanish (3 months with 2,5 employees) com-

panies had a lower workload.³ However, the costs *directly* imposed by the government are the highest in Great Britain, since companies are charged for the work of inspectors. An average British company pays 46.000 euro for the assessment of its safety report and can expect to pay an extra 5-16.000 euro per year for inspections of the site. In the other countries, companies are not or at a lower rate charged for the inspections.

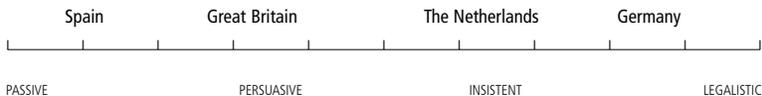
Given the more passive SDS enforcement, compliance costs related to producing safety data sheets are less dependent on enforcement. They are more determined by the number of sheets a company has to produce. The compliance costs for companies that produce more than 1000 sheets can be considerable: such a company spends more than 100 hours per week on this task and on average spent 300.000 euro on a software system for making the sheets. Companies that produce less than 100 sheets have lower costs, also per sheet. They spend on average only about 20 hours per week on this topic and their software system cost them only 9.000 euro. There thus are more differences in compliance costs between companies than there are between countries. Due to the absence of intensive enforcement, companies hardly have any costs directly imposed by the government.

The costs of the compliance workload differ between the directives but it is difficult to say how much exactly. Generally speaking, the Seveso II directive leads to a higher workload and thus higher compliance costs. It is more work to write a safety report than it is to produce safety data sheets. The costs directly imposed by the government are much higher for Seveso II upper tier establishments, especially for British companies that are charged at a rate of 165 euro per hour.

Thus particularly the Seveso II case shows the relevance of differences in enforcement: the same directive affects chemical companies differently in different Member States.

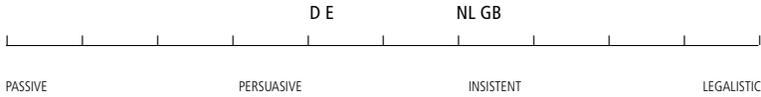
13.4 The style predictions revisited

This study shows the need for more detailed case studies on the black box of national enforcement practices. Chapter one provided a presumed order of strictness of enforcement styles, based on available literature.⁴ This resulted in the prediction that Spain would hardly enforce – thus a passive enforcement style – and that the British style would be flexible and co-operative. Dutch inspectors were expected to be accommodative and the Germans, finally, were expected to be the most formal and legalistic. This led to the following presumed order of strictness (chapter 1, section 1.5):

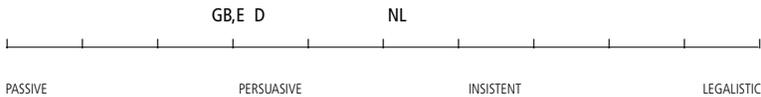


This study, however, shows the following order for both directives (chapter 7, section 7.6.1):

Seveso II



SDS



In the literature, enforcement in Spain – as in other southern countries – is often expected to hardly exist (e.g. La Spina and Sciortino, 1993; Pridham and Cini, 1994; Pridham, 1996). Southern Member States have a reputation of paying less attention to the enforcement than northern Member States. This study shows that this conclusion is too harsh and agrees with the findings of Börzel that the assumption can be challenged that ‘*southern European member states are in general incapable of complying with EU environmental law*’ (Börzel, 2000: 142).

Two of the four Autonomous Communities – Andalusia and Madrid – inspect the safety data sheets directive comparatively intensively. Their inspection styles are even more intensive than the British and German ones. Overall, the Spanish enforcement style is still persuasive, given the mix of active approach in Madrid and Andalusia with the passive approach in Catalonia and Valencia, the lack of sanctioning, and the dependent attitude towards companies. As well, Catalonia makes great effort to correctly enforce the Seveso II directive.

However, the presumed lack of administrative capacity to effectively implement EU policies (Pridham, 1996: 53), lack of technical expertise (La Spina and Sciortino, 1993: 224) and weak control mechanisms (Gibbons, 1999: 130) are confirmed by the Seveso II case. The lack of experience with safety report assessments forced Spain to hire private, often foreign, expertise. These private organisations are more lenient in their approach than the more legalistic Dutch and British government inspectors. To enforce both directives Spanish inspectors are reluctant to use formal sanctions. Of the four Member States studied, Spanish inspectors are least willing to impose sanctions and prefer the option to warn companies first. Providing advice and discussing legislation with companies form an important element of the inspections. Inspectors often indicate to feel dependent on companies for receiving information in order to be able to enforce a directive to the full.

The descriptions of the British enforcement style in the literature seem to match the findings regarding the safety data sheets directive. The inspectors have a considerable amount of administrative discretion to decide whether and to what extent to enforce this legislation and the provision of advice and information is considered an important element of the job. The suggestion that British inspectors should be especially concerned about the ‘reasonableness’ of the regulation – regulations may not lead to an ‘unreasonable’ economical burden – are not noticeably confirmed by this study. British inspectors seem to consider compliance costs and costs to undo an infringement only slightly more frequently than their foreign colleagues.

The recent change in British enforcement style, as observed by Majone (1996) and Lugt

(1999), is confirmed by the Seveso II case. In the area of environmental policy Majone noticed 'a greater stress upon formality and due process' (Majone, 1996: 127). Seveso II shows a great stress upon formality. The British enforcement style can be labelled insistent, almost legalistic. Elements that are normally emphasised in the older literature such as flexibility, administrative discretion and close co-operation between regulators and the regulated (e.g. Baldwin, 1990; Genn, 1993; Hawkins, 1984; Matthews, 1993; Vogel, 1986) are no part of the Seveso II enforcement practice. Inspectors follow their inspection-plans and apply assessment tools strictly. Of all four Member States studied Great Britain shows the most unco-operative attitude of inspectors towards industry. Advising and discussing the content of the legislation are no standard part of the inspection routine. The Seveso II enforcement style is anything but flexible and co-operative.

The reputation of the Netherlands as having an accommodative, non-legalistic enforcement style is not supported by this study. Both directives show a rather insistent Dutch enforcement style. Haverland is correct in typifying the Dutch case as 'German rules', but the 'British application' he also considered typical of the Dutch – and he meant flexible application – can not be observed in relation to the Seveso II and safety data sheets directives (Haverland, 1999b: 271). This study does not show that there often is room for discussions and negotiations in the enforcement practices. In the case of safety data sheets Dutch inspectors are the least willing to offer advice and discuss the topic of legislation with the companies. The amount of discretion is also not as high as presumed in the literature (Siemons, 1988/1992). Environmental inspectors check the SDS directive according to strict and detailed inspection-plans and enforcement tools. Of the four Member States, the Netherlands shows the most legalistic sanctioning approach. In this country formal sanctions in the form of fines are most frequently imposed.

Finally, neither Germany fits the expectations in the literature. The presumed legalistic enforcement style with its '*strict respect for formal rules*' (Siedentopf and Ziller, 1988a: 63) is not observed in the enforcement of the Seveso II and safety data sheets directives. Actually, Germany shows the most lenient Seveso II enforcement style and, to put it mildly, nor can the SDS enforcement style be characterised as strict. Inspectors are thought to have little discretion. However, the SDS case shows that the actual existence of enforcement depends on individual inspectors. Enforcement only takes place when inspectors find the topic important enough to check. Inspections do seem to take place in a formal atmosphere, but not more or less formal than in the other Member States. Germans are considered to '*attach importance to universal and equal rule application*' (Van Waarden, 1995: 342), yet this country shows the most differentiated Seveso II enforcement practice, not only between Länder, but also within them. The Seveso II enforcement style, however, might become stricter in the nearby future. At the time of conducting this study Germany did not yet fully establish all enforcement structures.

The generalisations found in the literature thus do not seem to hold for all policy areas or regulations. This study on the regulation of safety policy in the chemical industry contradicts this accepted wisdom. It especially seems that the extremes as mentioned in the literature – from uttermost passive to uttermost legalistic – are not so much present in practice. The differences are less pronounced than the literature sometimes suggests. The enforcement practices in this study show a more refined reality. But of course more evidence from other policy areas and sectors is needed to find out whether those deviations in enforcement styles within and between Member States are generalisable.

13.5 Towards an explanation

The findings in this study thus deviate to some extent from the presumed enforcement styles as described within the literature. Germany shows a rather flexible approach and the Netherlands and Great Britain a rather strict one, quite the opposite of what was expected. Why do some Member States enforce a directive more intensively than others? Why do companies in some countries have higher compliance costs than those in other ones?

13.5.1 Explaining differences in enforcement styles

The most obvious and remarkable difference is the one between the two directives. Whereas the Seveso II directive – despite differences between the four Member States – is on the whole rather intensively enforced, the safety data sheets directive does not receive much attention. The overall Seveso II enforcement styles are more insistent than the SDS ones. There is one explanation for this difference: the *saliency* of the topic that is regulated. The prevention of major accidents is considered more important than the information system of safety data sheets; the risks to be prevented are more serious. They have become salient due to recent disasters in the chemical industry, notably the ones in Enschede and Toulouse. These accidents placed the topic of the Seveso II directive high on the political agenda of both the Commission and the Member States. It led to an amendment of the Seveso II directive and increased the attention to the enforcement of this legislation. Not only recent disasters attribute to the saliency; the genesis of the directive – as its name shows – can already be found in one. Accidents such as the ones in Seveso and Flixborough led to the creation of the directive. Safety data sheets receive much less attention. Its relatively passive enforcement styles confirm the findings of Knill: *‘If political salience is low, we assume that perception of adaptation pressure shifts from a moderate to a low level. Due to political indifference, policy problems addressed by supranational legislation are either overlooked, neglected, or taken as being satisfactorily resolved by given administrative arrangements.’* (Knill, 1997: 11)

This study shows that the enforcement of a salient directive is generally intensive. Especially the Netherlands and Great Britain show insistent Seveso II enforcement styles. A training programme and detailed enforcement tools enable Dutch and British inspectors to adopt this strict style. This knowledge helps them to check all details that upper tier establishments have to conform to. Furthermore, the creation of a special department for the Seveso II directive in Great Britain focused attention on this legislation. In the Netherlands, the long tradition of regulating the topic of major accident prevention by three different ministries led to an intensive involvement of three ministries and their own three enforcement agencies. This horizontal fragmentation led to an unclear division of responsibilities between the various actors, which resulted in an insistent enforcement approach where all actors involved check all details. Whereas Hutter stated that the division of responsibilities between multiple regulatory agencies could lead to disputes (Hutter, 1988: 59), this study shows that an unclear division of responsibilities stimulated competition between agencies for strictness. It seems likely that this ‘positive’ influence of the unclear division is stimulated by the saliency of the topic. A less salient topic would probably have seen an absence of enforcement.

Germany and Spain show a less insistent style than the Netherlands and Great Britain. One explanation for this could be the late transposition and thus late creation of enforcement structures. There are two elements that led to this late transposition and – for the time being – prevented these countries from adopting a more legalistic enforcement style: (1) a misfit

between the national policy tradition and the EU directive and (2) a decentralised state structure and thus the need to involve sub-national governments in the transposition. This study thus confirms Börzel's conclusion that there is no 'southern problem' (Börzel, 2000). Germany and Spain show two similar restraining factors that can not be labelled 'southern'.

In Germany there was a misfit between its tradition of regulating individual installations and the approach of the directive that regulates entire establishments. Spain showed a deviating tradition in that it looks at the topic as a civil protection issue and therefore emphasises one aspect of the directive in particular; emergency planning. The country has less experience with another element of the directive – safety report assessments – and is thus forced to hire private agencies. Both countries needed to include sub-national governments in transposition. This, together with the misfit, contributed to late and complicated transposition processes. Haigh is right in his observation that '*many of the delays and failures over formal implementation (...) also mean that there has not yet been any practical implementation.*' (Haigh, 1986: 93) In Germany the misfit has been adjusted and the enforcement style may become more insistent. The country is already working on establishing more appropriate enforcement structures. In Spain the absence of experience requires still more time to build up an enforcement administration.

Other factors than the goodness of fit and vertical differentiation of the state explain variations in SDS enforcement styles. Whereas the salient Seveso II directive could count on overall support for enforcement, this was less the case for safety data sheets. Unlike expected, the clarity of the SDS directive does not trigger enforcement. The idea by Somsen that directives with explicit goals '*in theory are at least more readily susceptible to monitoring and enforcement*' does not hold (Somsen, 1996: 11). The SDS case shows that this applies indeed only 'in theory'. In practice, enforcement is dependent on the saliency of the issue.

Only the Dutch SDS enforcement style can to a certain extent be labelled 'insistent'. This case shows that directives that are not considered to be salient have a greater chance of actually being enforced under the following conditions:

- a) The legislation is focused on the topic of the directive alone and there are detailed and compulsory enforcement and sanctioning instruments.
- b) Enforcement agencies have a high internal centralisation and the enforcement is specialised by rule and not by company.
- c) Inspectors have an appropriate background, specific training on the topic of the directive, enough time for the enforcement, and a low amount of discretion.

The use of a compulsory computerised enforcement tool and sanctioning manual limits the discretionary powers of the environmental inspectors, and obliges them to strictly follow the inspection programme. As Bovens and Zouridis expected, this makes the Dutch enforcement style more legalistic (Bovens and Zouridis, 2002: 17).

13.5.2 *Explaining differences in compliance costs*

Overall, three factors seem to explain differences in compliance costs between Member States: (1) the nature of the directive, (2) differences in transposition and (3) differences in enforcement style.

Since the Seveso II directive is a minimum directive that does not describe all requirements very precisely, there is room for differences between Member States in how they transposed it. These differences in transposition largely explain variations in compliance costs across the

Union. The low Spanish costs for writing a safety report can be explained by the transposition of the directive into civil protection legislation. This resulted in a large amount of attention for the topic of external emergency planning which somewhat overshadows the attention for the safety report. Both regulators and regulated seem to pay more attention to the emergency plans than to the safety report. The high costs for writing a safety report in the Netherlands can be explained by the extras added in the transposition. The requirements related to scenarios are interpreted more strictly in the Dutch legislation and companies are obliged to calculate their risks in a Quantitative Risk Analysis. Finally, transposition also explains the high costs imposed by the British government. In its regulation, the British government decided to charge companies per hour of work done by the inspectors for inspections and assessments.

Besides differences in transposition, differences in enforcement style are of influence. In the Netherlands and Great Britain the insistent enforcement styles result in high compliance costs for companies. The high intensity of inspections and the legalistic assessment of the safety report influence the compliance practice of companies; it stimulates companies to put effort into the writing of the safety report and leads to high costs directly imposed by the government. In Spain the opposite holds. The limited attention of assessors to the safety report results in a less intensive compliance and lower compliance costs.

The safety data sheets directive shows fewer differences between Member States in compliance costs for companies. Since the directive is a maximum directive with clear requirements, there are not many differences in transposition. The enforcement style is of influence on the compliance costs. The absence of intensive enforcement results in the absence of compliance costs directly imposed by the government (such as costs for inspections or sanctions) in all four Member States. The slightly more intensive enforcement practice in the Netherlands does not lead to higher compliance costs for companies.

13.6 The importance of saliency and the vertical differentiation of the state

The Europeanisation literature (see chapter 1, section 1.2.3) has focused on domestic change or domestic adjustment in response to Europeanisation. What is the impact of Europe on national policies, politics or polities? The degree of domestic change can be classified as ‘absorption’ (low degree of change), ‘accommodation’ (modest degree of change) and ‘transformation’ (high degree of change) (Börzel and Risse, 2002: 14). The domestic adjustments in this study show – in the case of Seveso II – absorption in the Netherlands and Great Britain, accommodation in Germany, slow transformation in Catalonia and – for the time being – a form of stagnation in the other Spanish Communities. The safety data sheet case shows a form of absorption in all four Member States; or, as Knill refers to it ‘neglected adaptation’ (Knill, 1997: 14).

Börzel and Risse mention ‘*facilitating factors to respond to the adaptational pressures*’ (Börzel and Risse, 2002: 1-2) as a stimulant of domestic reform. Héritier and Knill refer to this as the ‘reform capacity’ of a country (Héritier and Knill, 2000: 1). A second factor that Börzel and Risse identify is the degree of fit between EU and domestic processes, policies and institutions. The two cases in this study show the importance of reform capacity and the degree of fit or match between the EU directive and the national policy tradition. The example of Seveso II in Spain shows a lack of experience with safety report assessments and a lack of

institutional capacity to solve this. The solution of appointing private regulatory agencies results in the situation in which enforcement does take place, however, in a rather lenient fashion since the private agencies show a far less strict approach in assessing safety reports compared to the governmental inspectors in the Netherlands and Great Britain. The misfit in Germany and Spain proved to be an important factor in explaining their delay in creating enforcement structures.

In order to be able to answer questions related to variations in enforcement styles and compliance costs, the variables distinguished in the Europeanisation literature alone are not sufficient. Other variables are needed to complement them. The SDS directive showed the need to include characteristics of the enforcement agencies and individual inspectors. Differences in compliance practices and costs are to a large extent explained by the nature of the EU rules and their transposition. The degree of fit, for example, seems to be much less useful when it concerns a topic that is not considered to be salient. A topic has to be important enough to be enforced. According to the agency-centred version of sociological institutionalism, a misfit will start a 'socialisation process' that will conduct change. Börzel and Risse claim that this will only happen when there are enough '*change agents*' and a '*political culture and other informal institutions conducive to consensus-building*' to facilitate such a change (Börzel and Risse, 2002: 11-12).

This study seems to show that there are other conditions as well: a topic has to be considered salient enough to produce change and the constraining impact of a decentralised state structure has to be kept in mind.⁵ As Héritier and Knill observe, '(...) *the scope and direction of domestic regulatory changes in the context of European policy-making are dependent upon the distinctive constellation of regulatory, ideological and institutional factors at the national level.*' (Héritier and Knill, 2002: 27) This is true, however, if a topic is not high enough on the political agenda there will be no regulatory change in the form of active enforcement.

13.7 Limiting variations in enforcement styles and compliance costs: a necessity?

The Commission does not control the black box of enforcement. It tallies the national records on transposition, but not on enforcement or compliance. It is hard, if not impossible, for the Commission to keep track of enforcement practices within the different Member States. Even if it could, enforcement is a national responsibility and the Commission does not control national regulatory agencies. *If* the Commission would like to control enforcement and stimulate uniform rule application, there are some options, however, to limit differences.

In the sphere of the legislation itself, two obvious solutions are possible. First of all, the nature of the directive proved to be of much influence on enforcement and compliance. Maximum directives that do not allow Member States to add requirements lead to more uniform rule application than minimum directives do. The minimum Seveso II directive resulted in Member States adding requirements differently and thus led to the situation in which regulated in various parts of the Union had to comply with deviating rules. The degree of precision also is important. A directive that describes its requirements rather vaguely will more likely lead to different interpretations than a directive that is precise. The Seveso II directive clearly shows the differences between the countries in their interpretation of the concept of 'scenarios'. If the Commission wants to stimulate the possibilities for inspectors to sanction non-compliance, requirements should be described more clearly. Both directives resulted in

complaints by inspectors in all four Member States over the clarity of the requirements and thus the visibility of non-compliance. Maximum directives that formulate the requirements clearly are more likely to lead to uniform enforcement. Of course minimum directives were introduced at European level to allow for diversity, but the Commission has to keep in mind that their use can potentially lead to different requirements for regulated throughout the Union and that they could thus distort competition.

A second solution for the Commission might be to make more use of regulations. Especially the comparison of the compliance costs showed that many differences between Member States are stimulated by differences in transposition. Thus, in order to achieve equivalent conditions for the regulated, the use of regulations instead of directives might seem an option. The Commission already observed this possibility in its White Paper: *'The use of regulations should be considered in cases with a need of uniform application and legal certainty across the Union'*. (COM(2001) 428: 20) However, even when regulations are used, there will still be differences in enforcement styles.

An organisational way for the Commission to control the enforcement practices would be to set up its own enforcement agencies. There are already EU agencies in the area of occupational safety and health ('The European Agency for Safety and Health' in Bilbao) and the environment ('European Environmental Agency' in Copenhagen), but these agencies have merely tasks of information gathering and the provision of technical and scientific support. There are also initiatives such as 'IMPEL' ('European Union Network for the Implementation and Enforcement of Environmental Law') that tries to harmonise enforcement practices of environmental legislation. This study also shows initiatives of guidance material published by the 'Major Accident Hazards Bureau' for the Seveso II directive and initiatives such as the 'Mutual Joint Visits' that stimulate inspectors to share best practices. This is not enough, however, to secure uniform rule application. This exchange of information, guidance documents and copying of best practice is optional and will only be used when regulators have the best intentions. This study shows that especially in the case of legislation that is not considered to be salient, such options are used to a lesser extent. The countries that adopted the most insistent style (the Netherlands and Great Britain for Seveso II and the Netherlands in case of SDS) all use detailed and sometimes compulsory inspection, assessment or sanction tools. This reduces the discretionary space of inspectors and forces them to follow the rules strictly and focus on all details. If the Commission wants to stimulate uniform rule application, it might think of creating EU-wide inspection tools to stimulate inspectors to enforce a directive similarly. The same could hold for compliance tools. A uniform EU guideline on how to comply with a directive might help especially the small and medium sized companies that in many cases struggle with correct compliance.

Or are differences in enforcement styles and compliance costs not so bad after all? Differences in transposition and enforcement could lead to a distortion of competition across the Union, but they might have an advantage as well. The differences allow for flexibility. Since the single currency in the European Monetary Union, Member States no longer have the option to be flexible in their monetary policy. It is no longer possible to devalue a currency if production costs get too high and threaten the competitive position. But a Member State has still the option to reduce production costs by entertaining a more flexible enforcement style.

Uniform rule application would to a large extent reduce the discretionary space of inspectors. It would not leave many options for inspectors to consider company or situation specific circumstances. This would not always necessarily lead to greater safety. As the chemical

industry itself often emphasises, it is important for inspectors not to lose sight of the aim of the regulations – safety – by focusing too much on minor details. The regulation of working safely with dangerous chemicals, however, is far too crucial to allow for large deviations with the risk of enforcement not to take place at all. Therefore the choice for a minimum directive that describes many requirements rather vaguely might seem paradoxical given the risks at stake. A directive that regulates the prevention of major accidents is too important to risk large differences between Member States and to allow lenient enforcement styles. After all, we do live in a risk society and these increasing risks require control as far as possible.

Notes

- 1 Chapter 1, section 1.5, provided predictions on the Dutch, German, British and Spanish transposition practices based on the literature (e.g. Andeweg, 1988; Bekker et al., 1995; Closa, 1996; De Gier, 1991; Gibbons, 1999; Glim, 1990; Haigh, 1986; Knill, 1998; La Spina and Sciortino, 1993; Siedentopf and Ziller, 1988a/b; Van Schendelen, 1996).
- 2 Differences *within* countries have also been found (see chapter 7, section 7.6.1), but this chapter mainly focuses on differences *between* the Member States.
- 3 There are no German Seveso II company respondents, see Annex I for more information.
- 4 E.g. Aalders and Wilthagen, 1997; Andeweg, 1988; Baldwin, 1990; Bekkers et al., 1995; Brickman et al., 1985; Burkens, 1998; Closa, 1996; De Gier, 1991; Genn, 1993; Gibbons, 1999; Haigh, 1986; Haverland, 1999a/b; Hawkins, 1984; Heidenheimer et al., 1990; Hutter and Manning, 1990; Jones, 1997; Knill, 1997; La Spina and Sciorrino, 1993; Lugt, 1999; Matthews, 1993; Moxon-Browne, 1989; Majone, 1996; Richardson et al., 1982; Rivero González and Heredia Benot, 1995; Saalfeld, 1996; Siedentopf and Ziller, 1988a/b; Siemons, 1988/1992; Van Schendelen, 1996; Van Waarden, 1995; Vogel, 1986; Wilks and Wright, 1987; Wilson, 1985; Wilson and Game, 1994.
- 5 One might argue that factors such as saliency and characteristics of agencies and street-level actors fall under the heading 'reform capacity'. A non-salient topic, for example, would automatically lead to an absence of change agents.

Annexes & References

Annex I

Interviews and questionnaires

In all cases the interviewees were selected on basis of knowledge of the topic and availability. The questionnaire respondents were randomly selected on basis of availability.

Seveso II

Table 1: Seveso II interviews

	NL	D	GB	E	total
Representatives European Commission					1
Representatives ministries	3	2	1	4	10
Inspectors	12	10	5	5	32
Representatives industry associations	1	1	1	1	4
Consultant agencies				1	1
Chemical companies	5	3	5		13
<i>Total</i>	<i>21</i>	<i>16</i>	<i>12</i>	<i>11</i>	<i>61</i>

Table 2: Seveso II questionnaires

	NL	D	GB	E	total
Inspectors	47	9	13	9	78
Chemical companies	28		10	7	45
<i>Total</i>	<i>75</i>	<i>9</i>	<i>23</i>	<i>16</i>	<i>123</i>

1) *The Netherlands*

The information on the Seveso II enforcement and compliance practice in the Netherlands according to inspectors is based on fifteen interviews and forty-seven questionnaires. Of the fifteen interviews, three were held with representatives of the ministries responsible for the inspection agencies. One with a representative of the 'Ministry of Housing, Spatial Planning and the Environment' ('Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu') that is responsible for the environmental authority. One with a representative of the 'Ministry of Social Affairs and Employment' ('Ministerie van Sociale Zaken en Werkgelegenheid') that is responsible for the labour inspectorate, and finally one with a representative of the 'Ministry of the Interior and Kingdom Relations' ('Ministerie van Binnenlandse Zaken en Koninkrijksrelaties') that is responsible for the fire brigades. The other twelve interviews were held with inspectors: five with labour inspectors, four with environmental inspectors and three with fire brigade inspectors. Of the forty-seven questionnaires¹, the environmental authority completed nineteen², the labour inspectorate fourteen³ and the fire brigade also fourteen⁴.

The information on the enforcement and compliance practice according to the regulated

is based on six interviews and twenty-eight questionnaires. Of the six interviews, one was held with a representative of the Dutch chemical industry association ('Vereniging voor de Nederlandse Chemische Industrie') and five with Seveso II upper tier establishments. The twenty-eight questionnaire respondents account for nineteen percent of all 150 Dutch upper tier establishments.

Table 3: Seveso II respondents in the Netherlands

	government	industry
Number of...		
• interviews	15	6
• questionnaires (percentage of total population)	47 (17%)	28 (19%)

2) *Germany*

The descriptions of the German enforcement and compliance practices according to inspectors are based on twelve interviews and nine questionnaires. Of the twelve interviews, two were held with representatives from the federal environmental ministry ('Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit') and ten with inspectors: five from Baden-Württemberg, three from North-Rhine Westphalia and two from Bavaria. The distribution of the questionnaire was a problem in Germany. In both Baden-Württemberg and North-Rhine Westphalia it was not possible to receive permission to distribute the questionnaire among inspectors. In both Länder the reason was the same: since Germany was late with the transposition of the directive – and inspectors therefore only had little experience with Seveso II inspections – they were afraid that their answers would be incorrect and incomplete. Only in Bavaria permission was granted to distribute the questionnaire: nine inspectors completed it.⁵

The information on the enforcement and compliance practice according to companies is based on four interviews: one with a representative of the German chemical industry association ('Verband der Chemischen Industrie') and three with Seveso II upper tier establishments, one in each Land. Unfortunately it was impossible to distribute the questionnaire among companies in Germany. Because Germany was late with the transposition, most companies were, during the phase of sending the questionnaires (spring 2001) still in the starting phase of writing their safety report. Therefore, companies were unwilling to complete a questionnaire on this topic. Nor was the German chemical industry association willing to distribute the questionnaire amongst its members.

Table 4: Seveso II respondents in Germany

	federal level		NRW		BW		BAV	
	gov	industry	gov	industry	gov	industry	gov	industry
Number of								
• interviews	2	1	3	1	5	1	2	1
• questionnaires	0	0	0	0	0	0	9(3%)	0

3) *Great Britain*

The information on the enforcement and compliance practice in England and Wales according to inspectors is derived from six interviews and thirteen questionnaires.⁶ Of the six people who were interviewed, one represented the central office of the ‘Health and Safety Executive’ (HSE), four were HSE inspectors and one was an inspector from the ‘Environment Agency’ (EA). Due to a change of management responsible for Seveso-related affairs, the questionnaire was difficult to distribute within the EA: only two inspectors were found to complete the questionnaire. Eleven inspectors completed the questionnaire for the HSE. Because of the small number of EA respondents it is not possible to distinguish EA from HSE answers. Differences between the two agencies based on the questionnaire are not presented, therefore.

Information on the enforcement and compliance practice according to companies is based on six interviews and ten questionnaires. Of the six interviews, one was held with a representative of the British ‘Chemical Industry Association’ and five with larger upper tier establishments. The ten questionnaires account for two percent of the British upper tier establishments’ population.

Table 5: Seveso II respondents in Great Britain

	government	industry
Number of...		
• interviews	6	6
• questionnaires (percentage of total population)	13 (7%)	10 (2%)

4) *Spain*

The description of the Spanish enforcement and compliance practice according to inspectors is based on nine interviews and nine questionnaires. Of the nine interviews one was held with a representative of the national ‘Ministry of Justice and Interior Affairs’ (‘Ministerio de Justicia e Interior’), ‘Directorate General on Civil Protection’, and three with the regional industry ministries in Catalonia, Valencia and Madrid. The remaining five interviews were held with private agencies: three with inspectors from private inspection agencies (ATISAE and ECA) and two with representatives of private consultant agencies (IQS and TNO). Nine inspectors from private inspection agencies in Spain completed the questionnaire: two from ICICT in Catalonia, one from ECA in Catalonia, two from ATISAE in Valencia and four from SGS in Madrid.⁷ These inspectors are only responsible for the inspections and therefore there are no questionnaire results on the aspect of safety report assessments. Since the number of questionnaires per Autonomous Community are so low – and the differences between the inspection agencies are only minor – the results of the questionnaire are treated as ‘Spanish results’ and they are not divided according to inspection agency or Autonomous Community.

Information on the Spanish enforcement and compliance practice with respect to the Seveso II legislation according to companies is derived from two interviews and seven questionnaires. The two interviews were held with one representative of the Spanish chemical industry association, Feique, and with one representative of a consultant agency that makes safety reports, Intecsa-Inarsa. The seven questionnaires were derived from Catalonia (4), Valencia (2) and Madrid (1). They account for eleven percent of the Seveso II upper tier establishments’ population of the three Autonomous Communities combined (65 upper tier estab-

ishments). Since these numbers per Autonomous Community are low, here as well the results of the questionnaire are treated as 'Spanish results' and are not divided per Autonomous Community.

Table 6: *Seveso II respondents in Spain*

	national level		CAT		VAL		MAD	
	gov	industry	gov	industry	gov	industry	gov	industry
Number of ...								
• interviews	1	2	4	0	2	0	2	0
• questionnaires	0	0	3	4 (10%)	2	2 (13%)	4	1 (10%)

Safety data sheets

Table 7: *SDS interviews*

	NL	D	GB	E	<i>total</i>
Representatives European Commission					1
Representatives ministries	3	1	2	2	8
Inspectors	5	6	4	4	19
Representatives industry associations	1	1	1	1	4
Consultant agencies	1			1	2
Chemical companies	6	3	3		12
<i>Total</i>	16	11	10	8	45

Table 8: *SDS questionnaires*

	NL	D	GB	E	<i>total</i>
Inspectors	13	–	7	11	31
Chemical companies	20	19	17	–	56
<i>Total</i>	33	19	24	11	87

1) *The Netherlands*

Information on the SDS enforcement and compliance practice according to inspectors in the Netherlands is based on eight interviews, eight normal questionnaires and five adjusted questionnaires. Of the eight interviews, three were held with representatives of the ministries involved: the 'Ministry of Housing, Spatial Planning and the Environment' ('Ministerie van Volkshuisvesting, Ruimtelijke Ordening en Milieu'), the 'Ministry of Health, Welfare and Sport' ('Ministerie van Volksgezondheid, Welzijn en Sport') and the 'Ministry of Social Affairs and Employment' ('Ministerie van Sociale Zaken en Werkgelegenheid'). Five interviews were

held with inspectors (two environmental inspectors, two labour inspectors and one health inspector). Of the eight normal questionnaires, environmental inspectors completed five and labour inspectors completed three. These eight respondents form 57% of the total population of fourteen Dutch environmental and labour inspectors. Since the 'Inspectorate for Health Protection' does not enforce this topic extensively, the normal questionnaire was not suited for these inspectors. Therefore, a separate, smaller, questionnaire was made and five health inspectors completed this. These five respondents form 63% of the total population of eight health inspectors responsible for SDS.

The information on the enforcement and compliance practice according to companies is based on eight interviews and twenty questionnaires. Of the eight interviews, one was held with a representative of the Dutch chemical industry association ('Vereniging voor de Nederlandse Chemische Industrie') and one with a consultant agency that makes safety data sheets ('Haskoning'). The remaining six interviews were held with companies that have to supply safety data sheets. Of these companies five are producers of chemical products and one is a trader. It is impossible to calculate the percentage of the total population that these twenty questionnaires form, since nobody in the Netherlands seems to be able to estimate the total number of Dutch companies with SDS obligations.

Table 9: SDS respondents in the Netherlands

	government	industry
Number of...		
• interviews	8	8
• questionnaires (percentage of total population)	normal: 8 (57%) adjusted: 5 (63%)	20

2) Germany

The description of the SDS enforcement and compliance practice in Germany according to inspectors is based on seven interviews. Of the seven interviews, one was held with a representative of the federal institute responsible for the transposition: the 'Federal Institute for Occupational Safety and Health' ('Bundesanstalt für Arbeitsschutz und Arbeitsmedizin'). The other six interviews were held with inspectors: three with inspectors of the 'Berufsgenossenschaften', one with an inspector from North-Rhine Westphalia, one with an inspector from Baden-Württemberg and one with an inspector from Bavaria. The distribution of the questionnaire among inspectors was rather problematic in Germany. The interviews showed that there are no German inspectors who focus entirely on safety data sheets. All occupational safety and health inspectors are generalists who enforce all kinds of safety and health legislation. Therefore, the enforcement agencies in the three Länder had difficulties with distributing the questionnaire. They did not want to disturb their inspectors with a questionnaire on one specific topic the inspectors are not specialised in. They were afraid that inspectors would not be able to answer detailed questions about a topic in which they are not specialised.

The information on the enforcement and compliance practice according to companies is based on four interviews and nineteen questionnaires. Of the four interviews one was held with the industry association ('Verband der Chemischen Industrie') and three with companies that have to produce safety data sheets. The nineteen questionnaires were equally drawn from North-Rhine Westphalia (36%), Baden-Württemberg (32%) and Bavaria (32%). It is impossi-

ble to state the percentage of the total population of companies since the total number of companies with SDS obligations is impossible to overtake.

Table 10: SDS respondents in Germany

	federal level		NRW		BW		BAV	
	gov	industry	gov	industry	gov	industry	gov	industry
Number of								
• interviews	4	1	1	1	1	1	1	1
• questionnaires	0	0	0	7	0	6	0	6

3) *Great Britain*

The information on the SDS enforcement and compliance practice according to inspectors in Great Britain is based on six interviews and seven questionnaires. Of the six interviews two were held with representatives of the central office of the ‘Health and Safety Executive’ (HSE) and four were held with inspectors. The inspectors that were interviewed came from the HSE (3) and the ‘Trading Standards Institute’ (1). Both agencies in theory can check safety data sheets, however, the interviews showed that only the HSE in practice enforces this topic. The trading standards inspectors did therefore not participate in the questionnaire. Within the HSE at first it seemed difficult to find inspectors to complete the questionnaire. The same problem as in Germany occurred: since there are no inspectors who focus on SDS entirely, the management did not want to distribute the questionnaire. Again, they did not want to disturb inspectors with a questionnaire on a topic they hardly enforce. Luckily, the northern region of one of the directorates of the HSE organised a special project that focused on safety data sheets. Seven inspectors who participated in this project were willing to complete the questionnaire. These seven respondents form 35% of the total population of twenty inspectors who participated. The answers from the questionnaire therefore only apply to this special project in the northern region and not to the enforcement of SDS within the ‘Health and Safety Executive’ in general.

Information on the British enforcement and compliance practice according to companies is based on four interviews: one with the ‘Chemical Industry Association’ and three with companies that have to make the sheets. Besides, seventeen companies completed the questionnaire. Again it is impossible to estimate the total number of ‘SDS-companies’ and thus impossible to mention the percentage of the total population.

Table 11: SDS respondents in Great Britain

	government	industry
Number of...		
• interviews	6	4
• questionnaires (percentage of total population)	7 (35%)	17

4) *Spain*

The description of the enforcement and compliance practice according to inspectors in Spain is based on six interviews, six normal questionnaires and five adjusted questionnaires. The interviews were held with two representatives of the national health ministry that transposed the directive ('Ministerio de Sanidad y Consumo') and four inspectors, one from each Autonomous Community. The six questionnaire respondents come from Andalusia (four) and Valencia (two). These six respondents only form two percent of the total population of 325 inspectors in Andalusia and Valencia combined. In Catalonia and Madrid the same problem occurred as in Germany and Great Britain. Since the inspectors do not focus on SDS entirely, the organisations did not want to disturb their inspectors with a questionnaire on a topic they do not enforce frequently. In Madrid the organisation did agree, however, to participate in an adjusted version of the questionnaire. Therefore, five inspectors from Madrid completed a shorter version. These five respondents form 23% of the total population of 22 inspectors in Madrid.

Unfortunately, there is not much information available on the enforcement and compliance practice according to companies. Two interviews have been held: one with a representative of the Spanish chemical industry association, Feique, and one with a representative of a consultant agency that makes safety data sheets for companies, 'Alatec'. The distribution of the questionnaire was problematic in Spain. There is no logical explanation such as late transposition. Three months have been spent on calling, writing and faxing companies to ask for representatives to complete the questionnaire. Despite quite a number of positive responses, none of the companies eventually returned the questionnaire. Due to a lack of time, unfortunately not more time could be spend on finding Spanish respondents.

Table 12: SDS respondents in Spain

	national level		CAT		VAL		MAD		AND	
	gov	industry	gov	industry	gov	industry	gov	industry	gov	industry
Number of ...										
• interviews	2	2	1	0	1	0	1	0	1	0
• questionnaires	0	0	0	0	2	0	5	0	4	0

Notes

- 1 The 47 Dutch questionnaires represent 17% of the total population of 270 Dutch inspectors who are responsible for Seveso II enforcement.
- 2 The 19 respondents from the environmental authority represent 13% of the total population of 145 environmental inspectors who are responsible for Seveso II enforcement in the Netherlands. Of the 19 questionnaire respondents from environmental authorities, 63% work for a province, 26% for a municipality and 11% for an environmental agency.
- 3 The 14 labour inspectorate respondents represent 56% of the total population of 25 labour inspectors who are responsible for Seveso II enforcement in the Netherlands.
- 4 The 14 respondents from the fire brigade represent 14% of the total population of 100 fire brigade inspectors who are responsible for Seveso II enforcement in the Netherlands.
- 5 The 9 Bavarian respondents represent 3% of the total population of 290 inspectors who are responsible for Seveso II enforcement in Bavaria.
- 6 The 13 questionnaires represent 7% of the total population of 180 inspectors in England and Wales who are responsible for the Seveso II enforcement.
- 7 It is not possible to calculate the percentage of the total population since the total number of Spanish inspectors responsible for the Seveso II enforcement is not available.

Annex II

Transposition of the Seveso II directive (96/82/EC)

a) *The Netherlands*

The Netherlands used secondary legislation to transpose the first Seveso directive: the 'Major Accident Hazards Decree' ('Besluit Risico's Zware Ongevallen'). For the transposition of Seveso II, it was decided to set up a new decree instead of amending the first one. The decree did keep its old name, but in order not to mix it up with the old decree, the year 1999 was added. In the Netherlands, the decree is mostly referred to by its acronym 'BRZO 1999'.¹ The transposition of the Seveso II directive into the decree formed a unique way of transposing European legislation in the Netherlands. The directive was transposed by a decree based on four different acts. This is a unique situation since normally a decree is based on one act alone. The acts on which the decree is based are the 'Environmental Management Act', the 'Working Conditions Act', the 'Disasters and Major Accidents Act' and the 'Fire brigade Act 1985'. In order to make it possible for one decree to be based on four different acts, three of these acts had to be amended. This was arranged by the Act of 25 February 1999.² The 'Major Accident Hazards Decree 1999' was published on 27 May 1999 and entered into force on 19 July 1999. Transposition was over five months late.

The decree in its entirety deals with the subject of major accident hazards and transposes most aspects of the Seveso II directive. Some smaller subjects, however, were transposed into two separate decrees. The first entered into force on 7 June 1999 and is called the 'Emergency Plans for Establishments Decree'.³ This decree is based on the 'Disasters and Major Accidents Act' and it regulates the aspect of external emergency plans; Article 11 of the EU directive.

The second decree that complements the main piece of legislation encompasses a topic that was already regulated in the Netherlands. To transpose this subject an already existing decree had to be amended. This amended decree is called the 'Information on Disasters and Major Accidents Decree'⁴ and is also based on the 'Disasters and Major Accidents Act'. It was modified on 8 June 1999. It transposes Article 13 of the directive on information to the public concerning major accidents.

Besides these three decrees, a ministerial order was called into existence on 2 July 1999.⁵ A ministerial order is easier to adopt than a decree since it only requires the signature of the responsible minister, in this particular case the environmental minister. A ministerial order is mostly used to specify some of the details laid down in an act or decree. This order specifies some of the articles of the decree, such as the content of the 'Major Accident Prevention Policy' (Article 7 of Seveso II), the descriptions of scenarios in the safety report and possible exclusions and limitations of information in the safety report (Article 9).

The 'Ministry of Interior Affairs' issued a circular ('Circulaire') on 27 August 1999.⁶ It was sent to municipalities, county aldermen and regional fire brigades and contains information on relevant changes in the legislation because of the transposition of the Seveso II directive and points out the responsibilities of the actors involved under the 'Ministry of Interior Affairs'. This circular is not legally binding; its goal is to inform those concerned.

One final part of the directive has not yet been transposed; Article 12 on land-use planning. The failure to transpose this article up till now (summer 2001) is caused by the presence of rather densely populated areas in the Netherlands, which makes the regulation of land-use planning rather complicated. The environmental ministry is working on the transposition of this Article, and will use a separate decree based on the 'Environmental Management Act'.

In sum, the Seveso II directive was transposed in the Netherlands by use of one act, three decrees, one ministerial order and one circular. One final decree is still required to complete the transposition. In this large number of legal instruments, the 'Major Accident Hazards Decree 1999' forms the core element.

b) Germany

In Germany, the first Seveso directive was transposed into secondary legislation: the 'Hazardous Incident Ordinance 1991' ('Störfall-Verordnung'). This ordinance is based on the 'Federal Immission Control Act' ('Bundesimmissionsschutzgesetz'), and is an amendment of an earlier version that already existed since 27 June 1980. Germany already regulated this topic of hazardous incidents since then. (Hailwood, 1998: 86) Under the 'Hazardous Incident Ordinance 1991' three more detailed administrative provisions were attached: one on definitions of the various concepts, one on the elements that should be included in the safety analysis and one on emergency planning. Since Germany already had some legislation in place before the transposition of the first Seveso directive, the transposition was rather elaborate. The final requirements in this ordinance were more extensive than the ones in the EU directive: the ordinance included more substances and processes than the directive prescribed.⁷

In order to transpose the Seveso II directive, the old 'Hazardous Incident Ordinance' had to be amended. The amendment that arranged the transposition of 'Seveso II' was the 12th amendment of the 'Hazardous Incident Ordinance' and it came into force on 3 May 2000.⁸ This was one year and four months late.

The act on which the ordinance was based, the 'Federal Immission Control Act', had to be amended in order to make all changes necessary. In the previous version of the act there was no basis to transpose all requirements of the Seveso II directive. The amendment of the act mainly had to do with the differentiation made in Germany between installations subject to licensing and installations not subject to licensing. The act did not allow regulating installations not subject to licensing under the aspect of major accident hazards. Only installations subject to licensing could be regulated under the act. In the ordinance that transposed the first Seveso directive, this did not form a problem; only individual installations subject to licensing were covered by Seveso I. However, the shift from focusing on installations (Seveso I) to focusing on establishments (Seveso II) changed this. Now entire establishments with numerous installations fall under the Seveso requirements. It is very well possible that these new 'Seveso-establishments' cover both sorts of installations. In order to ensure that establishments with both sorts of installations are covered by the scope of the legislation, the act was amended to arrange that installations not subject to licensing could be regulated as well. Besides, the amendment was also necessary to transpose three aspects from the directive immediately into the act. The definition of 'establishments', the provision of Article 17 of the directive on prohibition of use and the subject of land-use planning (Article 12) were transposed directly into the act. Due to the amendment of the act, most other elements of the directive could be transposed into the revised version of the ordinance. The amended 'Federal Immission Control Act' came into force on 27 December 2000.⁹

As mentioned before, the ordinance that transposed the first Seveso directive also additionally provided for three administrative measures. With the new ordinance in place these measures expired. In spring 2002, the federal government was still working on follow-ups for these administrative measures and formal consultations did not start yet. It is a difficult process in which the government is deciding what aspects can be kept from the older measures and what new aspects have to be added. A representative from the federal environment

ministry expected that it would still take a while before these measures are adopted.

The ordinance and the act do not transpose all elements of the Seveso II directive. Some of the topics are in the scope of the legislation for which the Länder are responsible and do therefore need to be transposed by them. The scope of the ordinance only covers commercial establishments. This means that non-commercial establishments such as research institutes, schools and private individuals have to be regulated by the Länder. In spring 2002, one Land still had to transpose this aspect of non-commercial establishments. In most cases, the Länder just made short notice of the fact that the requirements under the ordinance also apply to non-commercial establishments. According to a respondent from the federal government, not many non-commercial establishments will fall under the scope of the ordinance. Most of these establishments took or will take measures to ensure that they do not have to life up to these requirements: they ensure that they stay under the allowed thresholds. All three Länder in this research have their legislation on non-commercial establishments in place. Baden-Württemberg transposed this subject in December 2000. Both North-Rhine Westphalia and Bavaria both transposed this aspect in 2001.

The Länder are also responsible for transposing parts of Article 11 of the European directive on emergency planning. The federal government is responsible for all aspects related to the operator. Therefore, internal emergency planning is regulated on federal level; this is in the scope of the ordinance. The competent authorities of the Länder make the external emergency plans and therefore this is the responsibility of the individual states. It took a while before all Länder modified their civil protection legislation ('Katastrophenschutz') to transpose the Seveso II requirements on emergency planning. Especially two Länder had internal problems with appointing the right actors responsible for the transposition. Only on 13 March 2002 did all Länder have legislation in place on the topic of external emergency plans; more than three years late. All three Länder in this research were quite on time. North-Rhine Westphalia was the first to regulate this in 1998. In that period, North-Rhine Westphalia had to make new legislation in this area and they combined this with transposing the directive. The two other Länder arranged their transposition in 1999.

There are no obvious differences in the ways in which the Länder transposed these two elements; none of the Länder added requirements when transposing. Since not all Länder transposed the requirements on external emergency planning and non-commercial establishments on time, the European Commission started the infringement procedure against Germany. This is a problem for the federal government, since the government transposed all its own parts and was dependent on the individual Länder for further transposition. It is hard for the federal level to force the Länder to transpose EU legislation; there are no provisions in the constitution to deal with those issues at federal level. In spring 2002, the Commission was still waiting for the final Land to regulate the non-commercial establishments before withdrawing the infringement procedure.

c) Great Britain

The first Seveso directive was transposed into secondary legislation: the 'Control of Industrial Major Accident Hazards Regulations 1984'. The regulation was based on the 'Health and Safety at Work etc. Act 1974', which forms the basis for the regulation of all aspects of occupational safety and health. When transposing Seveso II, Great Britain decided to bring about a complete new set of regulations instead of amending the regulations that transposed the first Seveso directive. The main piece of regulation, also based on the 'Health and Safety at Work etc. Act 1974', that transposes Seveso II is the 'Control of Major Accident Hazards

Regulations 1999'.¹⁰ This regulation is often referred to by its abbreviation 'COMAH'. The COMAH regulation was laid before Parliament on 11 March 1999 and came into force on 1 April 1999. Despite being late for eight weeks, Great Britain was the first (part of a) Member State to transpose Seveso II. COMAH entirely deals with the topic of major accident hazards: it transposes the entire directive except for Article 12 on land-use planning. Land-use planning policy has already been present in Great Britain since the 1970s and is regulated by specific planning legislation. Because of the positive experiences with this planning legislation the decision was made to amend existing planning legislation in order to transpose Article 12 of the Seveso II directive. The general idea was that this was a better solution than trying to integrate this aspect into COMAH. Article 12 was transposed into 'The Planning (Control of Major-Accident Hazards) Regulations 1999' based on the 'Planning (Hazardous Substances) Act 1990'. This regulation came into force on 20 April 1999.¹¹

COMAH only arranges transposition for England, Wales and Scotland. Northern Ireland transposed Seveso II into its own regulation. There are no major differences between both sets of regulations. According to a respondent from the British government, Northern Ireland generally just took the COMAH regulation and formed this into its own format. Northern Ireland was rather late with the transposition since they first waited for Great Britain to finish. Gibraltar also has a different set of regulations. Here the same principle applied: COMAH was used as an example for Gibraltar regulations. The transposition of Gibraltar was completed in October 2000 and since then the entire United Kingdom transposed the directive. Because of the late transposition of Northern Ireland and Gibraltar the European Commission started the infringement procedure against the UK. This seems in contrast with the fact that Great Britain was the first to transpose Seveso II. The transposition of Gibraltar in 2000 stopped this procedure.

d) Spain

The first Seveso directive was transposed into Spanish legislation via secondary legislation: the 'Royal Decree 886/1988' of 15 July 1988. This royal decree was based on 'Law 2/1985 of 21 January on Civil Protection'.¹² Besides this royal decree, Spain set up a 'Basic Directive for the Processing and Confirmation of the Special Plans of the Chemical Sector' that expands on further technical details.¹³ This guideline describes how Autonomous Communities must deal with external emergency planning. It is binding for the Autonomous Communities to use this 'Basic Directive'.

The transposition of the second Seveso directive was also arranged via a royal decree: 'Royal Decree 1254/1999' of 16 July 1999, again based on the civil protection law.¹⁴ Spain is still (summer 2001) working on updating the old 'Basic Directive' to the new requirements of the Seveso II directive.

Some elements could not be described in the royal decree and therefore the 17 Autonomous Communities have to set up their own legislation in order to transpose these elements. After the transposition of the Seveso II directive into the national royal decree, the Autonomous Communities have to enact this Decree: '*Each country in the EU has to implement this directive. In the same way, the Autonomous Communities of Spain must adapt Spanish regulations.*' (Report EUR 16121 EN, 1995: 78) There are a few elements the Autonomous Communities have to regulate themselves. The subject of land-use planning (Article 12 of the directive) is the responsibility of the Autonomous Communities, and therefore regional decrees must be set up to regulate this part of the directive. Another example is Article 16 of the royal decree on the competent authorities. The royal decree does not specify what spe-

cific organs are responsible for the enforcement in the different Autonomous Communities.¹⁵ The national decree cannot specify this since enforcement is the responsibility of the Autonomous Communities. Therefore, the Communities themselves have to set up further regulations to specify this exactly. Also Article 19 of the decree on inspections asks of Autonomous Communities to specify more clearly how inspections will be dealt with. The Autonomous Communities thus have to adopt a regional decree that further enacts the national royal decree. These regional decrees should at least regulate the aspect of land-use planning, appoint the competent authority and specify the inspection plans. In the enactment, the regions do have the opportunity to make the technical obligations stricter.

This regional enactment already proved to be a problem during the first version of the directive. Even now, with the second Seveso directive already in force, not all Autonomous Communities enacted the first royal decree. The Spanish national government does not have many possibilities to ensure that Autonomous Communities enact the national Royal Decrees. They have no formal options to do so, but can use the informal option of cutting down the funding in other areas if Communities do not enact legislation. Under the first Seveso directive, approximately five regions did not enact the royal decree. Especially the isles, Balears and Canarias, form a problem when it comes to transposing and enforcing the Seveso directive. Of these Autonomous Communities that did not yet enact the first directive, it can not be expected that they will quickly enact the royal decree that transposed the second Seveso directive. At the moment (summer 2001), most Autonomous Communities are working on the enactment of the royal decree. This will usually be done by a decree. Some Communities have draft versions already in place, but none of the regions have the final version ready yet. The Communities that have the draft version in place claim to be waiting for further guidance by the central government in order to finalise all aspects. The government is still working on updating the 'Basic Directive' that was valid under Seveso I. The Communities claim to need the revised guideline for Seveso II in order to fully enact the royal decree. Besides, most Communities have a problem with filling in the aspect of domino effects. The Competent Authorities in the Autonomous Communities are responsible for appointing areas where domino effects might occur, Article eight of the directive. Since within the Communities there usually is not enough experience with this topic, they are waiting for the national ministry to come up with criteria they can use for this. Up until now, this did not happen yet.

The three regions under investigation all have a draft version in place. Now, they all three claim to be waiting for the final version of the 'Basic Directive' before finalising their regional decrees.

Notes

- 1 'Besluit van 27 mei 1999 tot vaststelling van het Besluit risico's zware ongevallen 1999 en tot herziening van enkele andere besluiten in verband met de uitvoering van Richtlijn nr. 96/82/EG van de Raad van de Europese Unie van 9 december 1996 betreffende de beheersing van de gevaren van zware ongevallen waarbij gevaarlijke stoffen zijn betrokken', Staatsblad 1999, 234.
- 2 'Wet van 25 februari 1999 tot wijziging van de Wet milieubeheer, de Wet rampen en zware ongevallen en de Arbeidsomstandighedenwet ter uitvoering van de EG-richtlijn betreffende de beheersing van de gevaren van zware ongevallen waarbij gevaarlijke stoffen zijn betrokken (Seveso-II)', Staatsblad 1999, 122.

- 3 'Besluit van 7 juni 1999, houdende regels met betrekking tot rampbestrijdingsplannen voor bepaalde categorieën inrichtingen die vallen onder de reikwijdte van richtlijn nr. 96/82/EG van de Raad van de Europese Unie van 9 december 1999 betreffende de beheersing van de gevaren van zware ongevallen waarbij gevaarlijke stoffen zijn betrokken', Staatsblad 1999, 237.
- 4 'Besluit van 8 juni 1999 tot wijziging van het Besluit informatie inzake rampen en zware ongevallen in verband met de uitvoering van richtlijn nr. 96/82/EG van de Raad van de Europese Unie van 9 december 1996 betreffende de beheersing van de gevaren van zware ongevallen waarbij gevaarlijke stoffen zijn betrokken en de opnemng van een strafbaarstellingsbepaling', Staatsblad 1999, 238.
- 5 'Regeling risico's zware ongevallen 1999', Staatscourant 1999, nr. 133.
- 6 'Circulaire EB1999/62386. Wijziging wet- en regelgeving in het kader van de implementatie van de Seveso II-richtlijn.'
- 7 Annex III of the first Seveso directive specified 180 substances that were to be regulated by this directive. The Ordinance in Germany provided for a stricter framework with 323 substances that needed to be regulated. Besides adding more substances to the list, the amounts that could be present were much lower in Germany. This can be shown by the example of ammonia. In Annex II of the first Seveso directive the allowed quantities of ammonia in order not to be included in the scope of the regulation were 50 and 500 tonnes. Companies with less than 50 tonnes did not have any obligations at all, companies with quantities between 50 and 499 tonnes of ammonia were considered lower tier companies and companies with 500 tonnes or more were considered upper tier companies. In the German Ordinance the quantities sustained were 3 and 200 tonnes. German companies with 3 tonnes or more of ammonia were already considered lower tier companies and companies with 200 tonnes or more were already considered upper tier companies.
- 8 'Verordnung zur Umsetzung EG-rechtlicher Vorschriften betreffend die Beherrschung der Gefahren bei schweren Unfällen mit gefährlichen Stoffen.' Vom 26. April 2000. Zwölfte Verordnung zur Durchführung des Bundes-Immissionsschutzgesetzes (Störfall-Verordnung – 12. BImSchV). In: Bundesgesetzblatt Jahrgang 2000 Teil I Nr. 19.
- 9 'Bundes-Immissionsschutzgesetz in der Fassung der Bekanntmachung vom 14. Mai 1990 (BGBl. I S. 880), zuletzt geändert durch Artikel 3 des Gesetzes vom 27. Dezember 2000 (BGBl. I S. 2048)'.
- 10 'The Control of Major Accident Hazards Regulations 1999', Statutory Instrument 1999 No. 743.
- 11 'The Planning (Control of Major-Accident Hazards) Regulations 1999', Statutory Instrument 1999 No. 981.
- 12 'Ley 2/1985, de 21 enero, sobre protección civil.'
- 13 'Directriz Básica para la Elaboración y Homologación de los Planes Especiales del Sector Químico', M-33114/1999, Imprenta Nacional del Boletín Oficial del Estado, 1999.
- 14 'Real Decreto 1254/1999, de 16 de julio, por el que se aprueban medidas de control de los riesgos inherentes a los accidentes graves en los que intervengan sustancias peligrosas', BOE núm. 172.
- 15 The Royal Decree does not, for example, specify who the Competent Authority is in the different Autonomous Communities.

Transposition of the safety data sheets directive (91/155/EEC)

a) *The Netherlands*

The Netherlands transposed the first safety data sheets directive via secondary legislation: 'Safety Data Sheets Decree'.¹ A new decree was made for this purpose since there was no already existing legislation that could be used. This decree was solely set up to arrange the transposition of the first safety data sheets directive; no other subjects are regulated in this decree. The decree is based on Article 24 of the 'Hazardous Substances Act'.² Instead of the required date of 30 May 1991, the Dutch transposition took place on 29 April 1993.

The second SDS directive did not bring about any large adaptations to the first version. Therefore the 'Safety Data Sheets Decree' in the Netherlands did not need to be replaced in order to transpose the EU directive. An amendment was sufficient to transpose the second directive. A publication of the amendment in the Dutch 'Official Gazette' of 2 November 1994 arranged the transposition.³ The revised decree came in force on 1 January 1995, the exact date on which the new directive had to be transposed.

b) *Germany*

The EU directive on safety data sheets was transposed in Germany into already existing secondary legislation: the 'Hazardous Substances Ordinance'.⁴ This ordinance is already in place since 1986 and is based on the 'Chemicals Act' ('Chemikaliengesetz'). The fourth amendment of the ordinance on 26 October 1993 arranged the transposition of the first EU directive on safety data sheets.⁵ This was over two years late. A later amendment, published in the 'Federal Labour Gazette' of February 1995, transposed the second SDS directive.⁶

The ordinance regulates more aspects than safety data sheets alone. It transposes nine European directives, under which the 'substances directive' (67/548/EEC) and the 'preparations directive' (88/379/EEC). The entire ordinance regulates many aspects related to handling hazardous substances. It, amongst others, concentrates on the classification, labelling and packaging of dangerous substances. Only the short paragraph 14 of the 'Hazardous Substances Ordinance' regulates the topic of safety data sheets. The directive is transposed in its entirety on federal level; the 16 Länder did not have to transpose any of the elements.

The 'Hazardous Substances Ordinance' does not describe the detailed provisions related to safety data sheets. For this purpose, an alternative instrument was set up: 'Technical Rules for Hazardous Substances 220 – Safety Data Sheet for Hazardous Substances and Preparations'.⁷ There are several of these technical rules related to hazardous substances, for example 'Technical Rule 200' on the classification of substances, preparations and products. They all reflect on further details related to placing these substances on the market and handling them. The federal 'Hazardous Substances Committee' ('Ausschuß für Gefahrstoffe') establishes these rules and two federal ministries separately publish them in their own 'Gazettes': the 'Federal Ministry of Labour and Social Affairs' in the 'Federal Labour Gazette' and the 'Ministry for the Environment, Nature Conservation and Nuclear Safety' in the 'Federal Health Gazette'.

This specific technical rule '220' concerning safety data sheets provides further details on paragraph 14 of the ordinance. It gives a general explanation of the obligations and it describes the contents under the 16 headings. The technical rules have a special status in law.

If companies follow the rules they know they comply with the legislation correctly. If not and an infringement is found, they have to prove that they do comply correctly in another way.

c) Great Britain

In Great Britain the safety data sheets directive is transposed into secondary legislation, a regulation. The regulation that transposed both SDS directives is referred to as 'CHIP': 'The Chemical (Hazard Information and Packaging for Supply) Regulations'.⁸ CHIP is a regulation placed under the 'Health and Safety at Work etc Act 1974'. CHIP's aim is broader than regulating safety data sheets alone. Its aim is *'to help protect people and the environment from the ill effects of chemicals – that is, both single substances and mixtures of substances (preparations) - by providing information about their properties and ensuring they are packaged safely.'* ('The complete idiot's guide to CHIP', p.3) In total, CHIP asks three things from suppliers of chemical products: to identify the dangers (classification), to provide information about the dangers (SDS and labels) and to safely package the chemicals. Thus, CHIP not only transposes the SDS directive, but also the 'substances directive' (67/548/EEC) and the 'preparations directive' (88/379/EEC). Especially Regulation 6 and Schedule 5 of CHIP regulate the subject of safety data sheets.

CHIP came into force on 1 September 1993 and employers had to comply on 1 September 1994. With this, Great Britain was over two years late with the transposition of the first safety data sheets directive. CHIP was replaced by CHIP 2 in 1994, which arranged the transposition of the second SDS directive. Northern Ireland and Gibraltar transposed the directive itself in a similar way. Both took CHIP as an example and used this for its own regulations.

CHIP does not describe the contents of the 16 headings; for this an 'Approved Code of Practice on safety data sheets for substances and preparations for supply' was introduced.⁹ This code gives practical guidance on regulation 6 of CHIP. It has a special status in law: *'If you are prosecuted for breach of health and safety law, and it is proved that you have not followed the relevant provisions of the Code, a court will find you at fault, unless you can show that you have complied with the law in some other way.'* (ACoP, p. iv) The code was set up on basis of joint consultation with employers, employees, experts and governmental departments. The code contains a lengthy explanation of Regulation 6 of CHIP and it describes the contents under the 16 headings.

d) Spain

The first safety data sheets directive was transposed into 'Royal Decree 1078/1993' of 2 July 1993.¹⁰ Spain was two years late with the transposition. The Royal Decree is based on Article 149.1.16^a & 23^a of the Spanish Constitution and Article 40, paragraph 5 & 6 of 'Law 14/1986 of 25 April, General Health'.¹¹

This decree does not only transpose the directive on safety data sheets. It transposes many other EU directives as well. Examples of subjects also regulated by this royal decree are classification, packaging and labelling of dangerous substances and preparations. Chapter V, Article 10, of 'Royal Decree 1078/1993' deals with the subject of safety data sheets. Annex III of this decree provides a guide on how to make the sheets. The second directive (93/112/EC) was transposed into the new 'Royal Decree 363/1995' of 10 March 1995.¹² The transposition of the second directive was two months late. This royal decree deals with even more subjects than its predecessor. Besides the topics mentioned, this decree also regulates the notification of new substances. Article 23 in Chapter VII regulates safety data sheets. Annex XI provides the guide on the content of the 16 headings. The directive is transposed in its

entirety on national level. The Autonomous Communities do have the opportunity to introduce their own legislation to enact national royal decrees. In this specific case there was no particular need for the Communities to do so. The national decree transposed all aspects asked for in the directive and did not leave any topics for the Autonomous Communities to regulate.

Notes

- 1 'Besluit van 29 april 1993 van de Minister van Sociale Zaken en Werkgelegenheid, tot vaststelling van nieuwe regels inzake het verstrekken van veiligheidsinformatiebladen aan beroepsmatige gebruikers van gevaarlijke stoffen en preparaten (Veiligheidsinformatiebladenbesluit Wet milieugevaarlijke stoffen)', Staatsblad 1993, 252.
- 2 'Wet van 5 december 1985, houdende regelen ter bescherming van mens en milieu tegen gevaarlijke stoffen en preparaten (Wet milieugevaarlijke stoffen)', Staatsblad 1995, 525.
- 3 'Wijziging veiligheidsinformatiebladen', Staatscourant 2 november 1994, nr. DGA/AIB/WJZ/94/08196.
- 4 'Verordnung zum Schutz vor gefährlichen Stoffen (Gefahrstoffverordnung – GefStoffV)'.
- 5 BGBl. I S. 1782, 2049.
- 6 Bundesarbeitsblatt, No. 2, Februar 1995, Gefahrstoffverordnung.
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Nederlandse samenvatting

Inleiding

Dit boek beschrijft de uitkomsten van een onderzoek naar de uitvoering en handhaving van twee Europese richtlijnen in verschillende lidstaten van de Europese Unie. Implementatie en handhaving bepalen wat er uiteindelijk van beleid terechtkomt. Of en hoe een ‘law in the books’ een ‘law in action’ wordt. De manier waarop lidstaten een Europese richtlijn omzetten in nationale wetgeving en vervolgens handhaven is bepalend voor de uitwerking van beleid. Verschillen in discretionaire ruimte van inspecteurs en ambtelijke stijlen kunnen gevolgen hebben voor de uitvoering en handhaving van Europese richtlijnen. Immers, bij EU-beleid worden de basale regels door Brussel opgesteld, maar is de uitwerking, uitvoering en handhaving een verantwoordelijkheid van de lidstaten. Verschillen in handhavingsstijlen kunnen ertoe leiden dat regels, die voor alle lidstaten gelijk zijn, een heel verschillende betekenis krijgen voor de gereguleerden in de diverse lidstaten. De naleving van regelgeving brengt vaak kosten voor bedrijven met zich mee. Gezien de mogelijk verschillen in omstandigheden zou de naleving van regelgeving kunnen leiden tot problemen voor bedrijven zoals concurrentie voor- dan wel nadelen.

De vraag naar het eventuele bestaan van verschillen in handhavingsstijlen en consequenties voor de gereguleerden wordt uitgewerkt aan de hand van drie onderzoeksvragen:

- 1) Bestaan er verschillen in de organisatie en praktijk van handhaven in de verschillende lidstaten? Kunnen verschillende handhavingsstijlen worden onderscheiden?
- 2) Bestaan er verschillen in de nalevingspraktijk van de gereguleerden in de verschillende lidstaten? Kunnen verschillende nalevingskosten worden onderscheiden?
- 3) Hoe kunnen verschillen in handhaving en naleving worden verklaard?

De vragen zijn onderzocht aan de hand van een literatuurstudie aan de ene kant en een empirische studie aan de andere kant. In totaal zijn 106 mensen geïnterviewd en hebben 210 mensen een enquête ingevuld; de respondenten zijn met name werkzaam bij inspectiediensten en chemische bedrijven.¹

De vragen worden beantwoord aan de hand van een vergelijking van de handhavings- en nalevingspraktijk in vier lidstaten op het gebied van twee specifieke EU richtlijnen. De vier lidstaten zijn Nederland, Duitsland, het Verenigd Koninkrijk en Spanje. De twee richtlijnen die zijn bestudeerd zijn de Seveso II richtlijn (96/82/EEG) en de Veiligheidsinformatiebladen richtlijn (91/115/EEG).

De Seveso II richtlijn is gericht op de preventie van zware ongelukken en de beperking van gevolgen daarvan voor mens en milieu. De belangrijkste verplichting voor bedrijven die onder deze richtlijn vallen is het schrijven van een veiligheidsrapport waarin zij uiteenzetten hoe het bedrijf heeft voldaan aan de plicht om na te denken over het voorkomen van zware ongevallen, welke preventiemaatregelen zij hiertoe hebben genomen, en hoe zij te werk zul-

len gaan om de gevolgen te beperken mocht er toch een zwaar ongeval plaatsvinden. De belangrijkste verplichtingen voor de overheid zijn om dit veiligheidsrapport te beoordelen, de gevaarlijkste categorie bedrijven jaarlijks te inspecteren en een extern noodplan op te stellen voor deze categorie van gevaarlijkste bedrijven.

De verplichtingen die voortkomen uit de Veiligheidsinformatiebladen richtlijn zijn minder zwaar en ingrijpend voor zowel overheid als bedrijven. Bedrijven zijn volgens deze regelgeving verplicht voor al hun gevaarlijke stoffen en preparaten een veiligheidsinformatieblad (VIB) te leveren met daarin kort informatie onderverdeeld in 16 hoofdstukken. De informatie die een VIB moet leveren valt uiteen in verschillende categorieën zoals informatie over en samenstelling van de bestanddelen (hoofdstuk 2), informatie over brandbestrijdingsmaatregelen (hoofdstuk 5) en hantering en opslag (hoofdstuk 7). Voor ieder gevaarlijk product moet een bedrijf gratis een VIB leveren aan alle professionele afnemers. De inspecteurs controleren met name in hoeverre bedrijven VIB's hebben voor alle gevaarlijke producten, of de 16 juiste hoofdstukken worden beschreven en of ze in de nationale taal zijn opgesteld.

Handhavingsstijlen & nalevingskosten

De eerste twee onderzoeksvragen naar het bestaan van verschillen in handhaving en naleving worden behandeld in deel II van het boek (hoofdstukken 3-7). Dit onderzoek laat zien dat er veel en belangrijke verschillen zijn te vinden in de manier waarop de vier lidstaten deze twee richtlijnen handhaven en in de manier waarop bedrijven in de verschillende landen deze richtlijnen naleven.

De handhavingsstijl van een land kan worden ingedeeld in één van de volgende vier categorieën die voortkomen uit een combinatie van literatuur en onderzoeksresultaten (hoofdstuk 2):

- 1) *Passief*: een extreem toegevend handhavingsstijl waarbij de inspecteur niet op kan tegen de gereuleerden en geen actie tegen hen durft te ondernemen. Deze stijl wordt gekarakteriseerd door een lage inspectie intensiteit, geen sanctionerend optreden en een hoge mate van afhankelijkheid van inspecteurs van bedrijven.
- 2) *Overredend*: een redelijk toegevend handhavingsstijl met een nadruk op het uitleggen van de wet- en regelgeving en het bediscussiëren van mogelijke oplossingen met de bedrijven. Het doel is om de gereuleerden ervan te overtuigen de wet na te leven. Sancties zijn uitzonderlijk en worden alleen gezien als allerlaatste redmiddel. Inspecteurs zijn er met name om advies te geven.
- 3) *Aanhoudend*: een mix tussen een overredende en een legalistische aanpak. Inspecteurs zullen in eerste instantie proberen om de gereuleerden te overtuigen, maar zijn daarna niet bang over te gaan op een meer legalistische benadering als bedrijven niet reageren op de onderhandelingspogingen. De inspectie intensiteit is hoog en inspecteurs voelen zichzelf niet afhankelijk van de bedrijven.
- 4) *Legalistisch*: een strikte handhavingsstijl waarbij inspecteurs bedrijven geen tweede kans geven maar onmiddellijk sancties opleggen als overtredingen worden geconstateerd. Inspecteurs checken alle details en de inspectie intensiteit is zeer hoog. Bedrijven zullen snel het gevoel hebben dat inspecteurs regels opleggen zonder naar hen te luisteren.

Seveso II

De Seveso II handhavingsstijl in de vier lidstaten wordt gekarakteriseerd door een relatief hoge intensiteit van de inspecties. In alle vier de landen is een actieve handhaving van deze richtlijn zichtbaar. Met name in Nederland en het Verenigd Koninkrijk is de intensiteit hoog. Hetzelfde kan worden gezegd van de beoordeling van het veiligheidsrapport. Nederland en het Verenigde Koninkrijk tonen een zeer legalistische benadering in de beoordeling, met name ingegeven door een hoog aantal beoordelaars (4 tot 6 personen), een hoog aantal dagen per beoordeling (30 tot 40 dagen) en het intensieve gebruik van een beoordelingsinstrument. Sancties zijn relatief uitzonderlijk in alle vier de landen. Inspecteurs in alle lidstaten geven aan dat zij zich afhankelijk van bedrijven voelen in de handhaving van de Seveso II richtlijn. Zij hebben het gevoel veel informatie van bedrijven nodig te hebben – die alleen te verkrijgen is als de inspecteurs een goede relatie met het bedrijf hebben – om goed te kunnen beoordelen of bedrijven voldoen aan de regelgeving. De algehele handhavingsstijl van de inspecteurs bij het handhaven van de Seveso II richtlijn kan worden gekenmerkt als *'overredend'* in Duitsland en Spanje en als *'aanhoudend'* in Nederland en het Verenigd Koninkrijk.

De nalevingskosten van bedrijven die moeten voldoen aan de Seveso II richtlijn vallen uiteen in kosten direct opgelegd door de overheid (zoals kosten voor inspecties en beoordelingen) en kosten die bedrijven zelf hebben voor het schrijven van het veiligheidsrapport. De kosten direct opgelegd door de overheid zijn het hoogste in het Verenigd Koninkrijk omdat bedrijven daar moeten betalen voor de inspecties die inspecteurs uitvoeren en voor de tijd die zij steken in de beoordeling van het rapport. Een gemiddeld Brits Seveso II bedrijf kan 46.000 euro kwijt zijn voor de beoordeling van hun veiligheidsrapport en jaarlijks nog eens 5.000 tot 16.000 euro voor inspecties. De kosten die bedrijven zelf hebben voor het maken van een veiligheidsrapport worden het hoogst ingeschat door de Nederlandse bedrijven. De voornaamste reden hiervoor is dat Nederlandse bedrijven aangeven veel langer bezig te zijn met het maken van dit rapport dan bedrijven in andere landen. Terwijl een Nederlands bedrijf gemiddeld 11 maanden met 4,5 werknemers nodig heeft, werken Britse bedrijven 9 maanden met 3 werknemers en geven de Spaanse respondenten aan slechts 3 maanden met 2,5 werknemers te besteden.

Veiligheidsinformatiebladen

De stijl bij het handhaven van de Veiligheidsinformatiebladen richtlijn is over het algemeen een stuk toegelijker dan bij Seveso II het geval is. Deze richtlijn wordt bijna niet actief gehandhaafd. Alleen in Nederland en in Andalucia en Madrid in Spanje zijn er specifieke projecten gericht op dit onderwerp.² In het Verenigd Koninkrijk en in de Länder in Duitsland is slechts eenmalig een project geweest dat was gericht op dit onderwerp. Het is hier sterk afhankelijk van de persoonlijke interesse van de inspecteurs of dit onderwerp wordt gehandhaafd of niet. Alleen in Nederland kan de handhavingsstijl worden getypeerd als *'aanhoudend'*. Dit is met name ingegeven door de hogere intensiteit van de inspecties, een meer sancionerend optreden en een minder afhankelijk relatie tot bedrijven. De stijl in de drie andere landen kan worden gekenmerkt als *'overredend'*, bijna *'passief'*.

De nalevingskosten van bedrijven bij het voldoen aan de eisen in de Veiligheidsinformatiebladen richtlijn zijn sterk afhankelijk van de hoeveelheid gevaarlijke producten die een bedrijf in huis heeft – en dus de hoeveelheid VIB's die een bedrijf moet maken. De kosten verschillen dus per bedrijf; verschillen in nalevingskosten tussen landen lijken niet aanwezig. Voor

een bedrijf dat meer dan 1000 VIB's moet produceren kunnen de kosten aardig oplopen; zij besteden gemiddeld 116 uur per week aan het maken van de bladen en hebben ongeveer 300.000 euro betaald voor het benodigde software systeem om de VIB's te maken. Bedrijven die minder dan 100 VIB's maken besteden daarentegen slechts zo'n 23 uur per week aan deze verplichtingen en hebben gemiddeld het veel lagere bedrag van 9.000 euro betaald voor hun software systeem.

Over het algemeen is de handhavingstijl meer legalistisch in het geval van de Seveso II richtlijn dan in het geval van de Veiligheidsinformatiebladen richtlijn. Dit komt met name door een hogere intensiteit van de inspecties. De Seveso II nalevingskosten verschillen meer tussen *landen* dan tussen bedrijven terwijl de veiligheidsinformatiebladen nalevingskosten meer verschillen tussen *bedrijven* dan tussen landen. De kosten die bedrijven hebben die direct zijn opgelegd door de overheid – zoals kosten voor inspecties, beoordelingen en sancties – zijn veel hoger voor Seveso II dan voor veiligheidsinformatiebladen. De voornaamste reden hiervoor is dat de Seveso II inspecties frequenter plaatsvinden en dat in de meeste landen de regering geld vraagt voor deze inspecties.

Op zoek naar mogelijke verklaringen

Zoals de derde en laatste onderzoeksvraag al aangaf, poogt dit boek een eerste verklaring te zoeken voor verschillen in handhavingstijlen en nalevingskosten. Gezien het explorerende karakter van het onderzoek is er gekeken naar de mogelijke invloed van veel verschillende variabelen. De variabelen zijn ingedeeld in vier categorieën en worden beschreven in deel III van dit boek (hoofdstukken 8-12):

- 1) 'Saliency': de mate van belang die aan het onderwerp van de richtlijn wordt gehecht op zowel nationaal als Europees niveau. In hoeverre staat het onderwerp van de richtlijn op de politieke agenda?
- 2) Wettelijke structuur: de wettelijke context waarbinnen de richtlijn moet worden gesitueerd. Van belang hierbij kunnen zijn de vorm van de richtlijn zelf (gedetailleerde of algemene richtlijn), de transpositie in nationale wetgeving (toevoegen van extra nationale eisen of niet) en het eventuele bestaan van nationale instrumenten of hulpmiddelen voor inspecteurs en bedrijven.
- 3) Organisatorische structuur: de vorm en structuur van de handhavende inspectiediensten en – indien meerdere diensten zijn betrokken bij één richtlijn – de interactie en samenwerking tussen de verschillende diensten.
- 4) 'Street-level' actoren: kenmerken van de twee groepen actoren betrokken bij handhaving en naleving; de inspecteurs en de chemische bedrijven.

Verklaringen voor verschillen in handhavingsstijlen

Seveso II

Over het algemeen is de Seveso II handhavingsstijl actief en relatief strikt te noemen in alle vier de lidstaten. Er zijn twee redenen voor intensieve handhaving van dit onderwerp. In de eerste plaats zijn de lidstaten verplicht om te handhaven. De Seveso II richtlijn is een van de weinige Europese richtlijnen die de lidstaten expliciet verplicht in artikel 18 om een *'inspectiesysteem of andere op het soort betrokken inrichting afgestemde controlemaatregelen'* (OJ 1997 L 10, p. 20) op te zetten. De belangrijkste reden voor de actieve handhaving lijkt echter te liggen in het belang dat aan het onderwerp van preventie van zware ongevallen wordt gehecht (saliency). Met name recente ongelukken binnen de chemische (of verwante) industrie – zoals die in Enschede in 2000 en die in Toulouse in 2001 – hebben er toe bijgedragen dat de handhaving van de Seveso II richtlijn hoog op de politieke agenda staat van zowel de Europese Commissie als de individuele lidstaten. De explosie van de vuurwerkfabriek in Enschede heeft er onder andere toe bijgedragen dat de Seveso II richtlijn op dit moment wordt aangescherpt zodat dit soort inrichtingen voortaan ook onder deze regelgeving vallen.

De Nederlandse en Britse handhavingsstijlen zijn strikter dan die in Duitsland en Spanje. Met name meer frequente inspecties en een intensievere beoordeling van het veiligheidsrapport dragen hiertoe bij. Beide landen hebben (bijna) alle inspecteurs die bij dit onderwerp betrokken zijn getraind om de handhaving goed uit te kunnen voeren. Ook kunnen inspecteurs in beide landen gebruiken maken van gedetailleerde hulpmiddelen. Britse inspecteurs hebben bijvoorbeeld een 600-pagina dikke checklist tot hun beschikking om een veiligheidsrapport te controleren. Duitse en Spaanse inspecteurs zijn minder vaak gericht opgeleid om de Seveso II richtlijn te handhaven en hebben minder (en minder gedetailleerde) hulpmiddelen tot hun beschikking. Dit maakt het voor hen moeilijk om een legalistische handhavingsstijl te ontwikkelen. Er is een relatief simpele verklaring voor de toegeeflijkere stijlen in Duitsland en Spanje: beide landen waren te laat met het omzetten van de Europese richtlijn in nationale wetgeving. Doordat zij te laat waren, hadden zij op het moment dat dit onderzoek werd uitgevoerd nog niet de benodigde handhavingsstructuren opgezet. Er zijn in beide landen twee redenen voor de verlate omzetting:

- 1) Een afwijkende nationale beleidstraditie.
- 1) Gedecentraliseerde structuur van de staat.

Zowel Duitsland als Spanje vertoonde een 'misfit' tussen de nationale beleidstraditie en de Europese richtlijn, hoewel op een verschillende manier. In Duitsland bestond een traditie van het reguleren van dit onderwerp met de individuele 'installaties' (technische eenheden) als uitgangspunt, terwijl de richtlijn uitgaat van de gehele 'inrichting' (het hele gebied met alle installaties). Dit verschil in uitgangspunt heeft voor veel 'overschakelings-problemen' gezorgd. Spanje vertoonde een andere 'misfit'. Dit land had met name ervaring met het reguleren van rampenplannen en scenario's. Er was minder ervaring met de preventieve kant van de richtlijn, namelijk het opstellen en beoordelen van rapporten waarin de preventie maatregelen te voorkoming van zware ongevallen worden uitgewerkt. Naast een afwijkende beleidstraditie zorgden de Duitse 'Länder' en de Spaanse 'Comunidades Autónomas' voor een vertraging van de omzetting. In beide landen zijn deze actoren verantwoordelijk voor de omzet-

ting van een deel van de richtlijn wat tot aanzienlijke vertragingen heeft geleid waar de centrale overheid weinig grip op heeft.

Veiligheidsinformatiebladen

Vergeleken met de Seveso II richtlijn gebeurt er weinig op het gebied van handhaving van de Veiligheidsinformatiebladen richtlijn. Er zijn relatief weinig inspecteurs per land die niet veel tijd steken in het controleren van bedrijven op de aanwezigheid en correcte samenstelling van de bladen. Waarom vindt er geen uitvoerige handhaving plaats? De voornaamste reden hiervoor lijkt te liggen in de lage prioriteit die inspecteurs toekennen aan deze regelgeving. De Veiligheidsinformatiebladen richtlijn staat niet hoog op de politieke agenda; men vindt het onderwerp niet belangrijk genoeg.

Alleen in Nederland is er sprake van iets meer aandacht voor de bladen. Hier vinden jaarlijkse inspectieprojecten plaats die zich, onder andere, richten op dit specifieke onderwerp. Er zijn een aantal factoren die anders zijn in Nederland in vergelijking met de andere drie landen die zouden kunnen verklaren waarom de Nederlandse handhavingsstijl meer aanhoudend is. De wettelijke structuur, ten eerste, is in zoverre anders dat Nederland het enige land is dat de richtlijn in een aparte wet heeft omgezet. De andere drie landen hebben ervoor gekozen om de richtlijn samen met soortgelijke onderwerpen om te zetten in een nationale wet. In Nederland is het onderwerp van veiligheidsinformatiebladen potentieel dus meer zichtbaar. Daarnaast zijn Nederlandse inspecteurs verplicht een gedetailleerd handhavingsinstrument te gebruiken dat voor hen bepaald wat wanneer gesanctioneerd moet worden. Ten tweede is de organisatorische structuur afwijkend in de zin dat Nederland het enige land is waar de inspecteurs controleren op onderwerp van wetgeving en niet per bedrijf. In de andere landen hebben de inspecteurs een aantal bedrijven onder hun hoede waar ze alle arbeidsomstandigheden wetgeving moeten controleren. Een onderwerp dat relatief laag op het prioriteitenlijstje van een inspecteur staat zal in zo'n geval niet snel aandacht krijgen. Een laatste verschil is dat de kenmerken van de Nederlandse inspecteurs gunstiger werken. Nederlandse inspecteurs hebben een opleiding die beter aansluit bij het onderwerp van de richtlijn, hebben meer tijd voor dit onderwerp en hebben minder discretionaire ruimte waardoor ze meer verplicht zijn tot het inspecteren van bepaalde wetgeving en dus meer 'gedwongen' zijn om de veiligheidsinformatiebladen te controleren.

Over het algemeen lijkt de belangrijkste verklaring voor het feit dat de Seveso II handhavingsstijl meer legalistisch is te liggen in de hogere prioriteit die aan dit onderwerp wordt toegekend (saliency). Met name ongevallen zoals die in Enschede en Toulouse hebben ertoe bijgedragen dat de Seveso II richtlijn hoog op de politieke agenda staat en dat inspecteurs veel aandacht aan de handhaving besteden.

Verklaring voor verschillen in nalevingskosten

Seveso II

Dit onderzoek toont aan dat Nederlandse bedrijven de meeste tijd besteden aan het naleven van de verplichtingen die de Seveso II richtlijn met zich meebrengt en dus de hoogste nale-

vingskosten hebben. Spaanse bedrijven besteden de minste tijd en lijken de laagste nalevingskosten te hebben. Een belangrijke verklaring voor de verschillen in kosten tussen bedrijven in verschillende landen lijkt te liggen in de aard van de richtlijn zelf. Omdat de richtlijn een ‘minimum’ richtlijn is, mogen lidstaten extra verplichtingen toevoegen op het moment dat de richtlijn wordt omgezet in nationale wetgeving. Dit heeft in dit voorbeeld geleid tot verschillen in omzetting tussen de lidstaten. Nederland heeft bij de omzetting van de Seveso II richtlijn een aantal extra elementen toegevoegd die leiden tot extra werk voor de bedrijven. Door de toevoegingen worden de Nederlandse bedrijven verplicht relatief veel werk te steken in het veiligheidsrapport wat leidt tot hoge kosten. De Spaanse overheid daarentegen benadrukt in de omzetting de nationale beleidstraditie van rampenplannen. Het veiligheidsrapport – dat toch met name gericht is op de preventieve maatregelen – is daarom relatief onderbelicht in Spanje wat lijkt te verklaren waarom Spaanse bedrijven minder aandacht besteden aan het ontwikkelen van hun rapport.

Naast verschillen in omzetting lijkt ook de handhavingstijl van een land invloed te hebben op de nalevingskosten van de bedrijven. Opvallend is dat de Nederlandse en Britse handhavingstijlen het meest strikt zijn en dat ook de bedrijven in deze landen de hoogste nalevingskosten hebben. In Spanje met haar relatief toegeeffijkere stijl hebben de bedrijven lagere kosten voor het maken van het veiligheidsrapport.

Veiligheidsinformatiebladen

Er zijn weinig tot geen verschillen te vinden tussen de vier lidstaten in hoe de bedrijven de verplichtingen in de Veiligheidsinformatiebladen richtlijn naleven en welke kosten dit genereert. De verschillen in omzetting die een rol speelden bij de Seveso II richtlijn zijn hier niet van toepassing. Omdat de Veiligheidsinformatiebladen richtlijn een ‘maximum’ richtlijn is, mogen de lidstaten geen extra elementen toevoegen. De nationale wetgevingen lijken daarom zeer op elkaar en er zijn geen duidelijke verschillen te vinden in verplichtingen. De kosten die bedrijven hebben worden hoger naarmate een bedrijf meer VIB's moet produceren en zijn dus niet landsgebonden. De lage kosten direct opgelegd door de overheid – zoals kosten voor inspecties of sancties – zijn te wijten aan de relatief passieve handhavingstijl in de vier landen. De iets striktere stijl in Nederland leidt niet tot hogere kosten omdat de kans op inspecties en sancties zelfs hier zeer laag is.

Waar het belang dat aan een richtlijn wordt gehecht veel invloed heeft op de handhaving, lijkt het minder invloed te hebben op de naleving. Beide richtlijnen worden over het algemeen goed nageleefd door bedrijven, of het onderwerp nu hoog op de politieke agenda staat of niet. De chemische industrie lijkt de naleving van regelgeving serieus te nemen. Er lijkt in beide gevallen een link te bestaan tussen de handhavingstijl van een land en de nalevingskosten die bedrijven hebben. Seveso II genereert de hoogste nalevingskosten in die landen met de strikteste handhavingstijl en de algemeen relatief passieve handhavingstijl in relatie tot de Veiligheidsinformatiebladen richtlijn gaat samen met lage kosten direct opgelegd door de overheid.

Conclusie

Dit proefschrift toont aan dat er veel verschillen bestaan tussen (en binnen) de lidstaten van de Europese Unie in hoe één en dezelfde EU richtlijn wordt gehandhaafd door nationale inspectiediensten en wordt nageleefd door bedrijven in verschillende landen. Omdat de Europese Commissie niet of nauwelijks invloed uitoefent op de handhavingspraktijk, zou handhaving de achillespees van het Europese beleidsproces kunnen worden genoemd. Toch is er een drietal wegen waarlangs de Commissie invloed zou kunnen uitoefenen op een meer uniforme handhaving en naleving van richtlijnen. De eerste twee mogelijkheden liggen op het gebied van de regelgeving zelf. De Commissie kan door vaker te werken met verordeningen die directe uitwerking hebben in plaats van richtlijnen zorgen voor grotere uniformiteit. Wordt wel voor een richtlijn gekozen, dan geldt als stelregel dat een minimum richtlijn tot grotere variëteit leidt dan een maximum richtlijn. De derde mogelijkheid ligt op het organisatorische vlak. Door centrale Europese handhavingsinstanties die zich richten op het stimuleren en faciliteren van de nationale inspectiediensten door middel van meetinstrumenten, voorlichting, protocollen en handboeken wordt een meer uniforme handhavingspraktijk bevorderd.

Het onderzoek laat het belang zien van de fase van handhaving voor het proces van beleidsimplementatie. Aandacht voor handhaving toont inzicht in de vraag hoe de 'law in the books' een 'law in action' wordt. De bestudering van de omzetting van richtlijnen in nationale wetgeving vindt veelvuldig plaats, maar de meeste onderzoeken trekken hier de lijn. Juist de fase na de omzetting – het daadwerkelijk controleren van bedrijven of en hoe zij de regelgeving naleven – krijgt weinig aandacht. Voor een goed inzicht in de daadwerkelijk impact van EU regelgeving in de lidstaten zal het onderwerp 'handhaving' meer in de belangstelling moeten komen te staan. Dit explorerende onderzoek laat zien dat hierbij met name aandacht moet worden besteed aan het belang dat aan een onderwerp wordt gehecht (saliency), de soort regelgeving en het type handhavingsinstanties.

Noten

- 1 De indeling van de respondenten naar organisatie, land en richtlijn is te vinden in Annex I.
- 2 Het onderzoek naar deze richtlijn laat dus zien dat er ook grote verschillen bestaan binnen (quasi-) federale staten. De handhavingsstijl van Andalucia en Madrid vertoont meer overeenkomsten met die van Nederland dan met die van Catalonia.

Curriculum Vitae

Esther Versluis was born in Den Helder (the Netherlands) on 13 August 1975. She studied 'culture and sciences' at the Maastricht University from 1993 to 1998. During her studies she focused on European political culture, in particular on the EU decision-making processes. In 1998 she started working as a PhD student at the University of Utrecht, Faculty of Social Sciences. Since 2002 she is working as an assistant professor at the Maastricht University in the European Studies programme. Here she continues her research on transposition and enforcement of European legislation and she teaches various modules on European history and European integration.