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COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS AND ON THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

Sub-Committee of Experts on the Globally Harmonized System of Classification and Labelling of Chemicals
(Second session, 12 -14 December 2001, agenda item 6 (a))

IMPLEMENTATION

National level

Adoption and implementation of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in New Zealand

Transmitted by the expert from New Zealand

Introduction

In 1996, the New Zealand Parliament passed the Hazardous Substances and New Organisms (HSNO) Act. This Act restated and reformed the laws in New Zealand relating to the management of hazardous substances and new organisms. The new organisms part of the Act commenced in July 1998 and the hazardous substances part commenced in July 2001. The commencement for hazardous substances was dependent upon the promulgation of the regulations that are required to implement the Act.

The policy for the Act and the regulations is managed by the New Zealand Ministry for the Environment. The Act sets up a new agency, the Environmental Risk Management Authority (the "Authority"), to implement and operate the requirements of the Act. The Authority is a government agency with the Chairperson and Board appointed by the Minister for the Environment, but otherwise vested with a non-political quasi-judicial decision-making function.

For hazardous substances, the purpose of the law is to protect the environment, people and communities by preventing or managing the adverse effects of hazardous substances. The regulations set thresholds between hazardous and non-hazardous properties. Thus, non-hazardous substances are not regulated by this law.

The definition of "substance" is very broad and includes mixtures, but allows for ranges of compositions to be included in one definition.

The presumption in the law is that no hazardous substance can be imported or manufactured (and hence used in New Zealand) unless it has been approved. This requirement for an approval is universal across all sectors, at all stages of the lifecycle and for all hazardous substances (including product and product groups), unless they have been explicitly exempt (and currently the only exemptions are for pharmaceuticals for human use and foods and additives when used in food).

There is a 3-5 year transitional phase for substances that were in lawful use prior to 2 July 2001. All the previous registrations, licences, authorisations, etc., for these hazardous substances will be transferred to HSNO approvals during this phase.

Thresholds and classifications

The definition of the hazardous property thresholds which indicate whether a substance is hazardous or not is set in the HSNO (Minimum Degrees of Hazard) Regulations 2001. These thresholds cover all the classes of hazard that are covered by the GHS:

explosiveness
flammability
capacity to oxidise
toxicity to humans
metallic and biological corrosiveness
ecotoxicity

The threshold levels of hazard for each of these classes and the sub-classes are essentially the lowest hazard boundary of each of the GHS classifications. For example, a flammable liquid needs to have a flashpoint of less than 93°C to be considered hazardous and a toxic substance needs to have an acute oral toxicity (LD_{50}) of less than 5000 mg/kg to be considered to be hazardous. It stands to reason that a substance can be hazardous for more than one hazardous property endpoint, for example a solvent can be not only a flammable liquid but may also be a toxic (and ecotoxic) substance.

For substances that are hazardous the degree of hazardousness for each type of hazard is determined by the HSNO (Classification) Regulations 2001. These are almost entirely based on the GHS. These regulations assign hazard classifications according to:

numbered classes indicating the intrinsic hazardous property (e.g. Class 6 – toxicity)
numbered sub-classes indicating type of hazard (e.g. Sub-class 6.3 – skin irritation
lettered categories indicating degree of hazard (e.g. Category A, B ... etc.)

The combination of numbers and letters used in the classification system constitutes the hazard classification of a substance (e.g. 6.3B, substance is a mild skin irritant). The full range of hazard

classifications is outlined in Annex. For the most part they follow the UN Orange Book system. Class 7 is not used in the HSNO regulations as it is radioactivity hazard in the UN system and is covered elsewhere in New Zealand legislation. Ecotoxicity has been assigned to Class 9. Skin and eye irritancy, sensititisation and chronic toxicity endpoints have been assigned to sub-classes 6.3-6.9 in Class 6. Sub-class 6.2 is not used in the HSNO regulations as it is used for infectious hazards in the UN system and these are also not covered under the HSNO (or GHS) systems..

The HSNO regulations have assigned irreversible skin and eye irritation in the GHS system to Class 8 – Corrosive substances. Reversible skin and eye irritation are assigned to Class 6 – toxicity. While this appears to be confusing, it has little consequence as discussed below.

The numbering system for hazard classifications in the HSNO Regulations that have been described above does not appear in any of the subsequent controls (apart from the class number on pictograms as required by the UN TDG system) other than to identify which controls apply to substances with certain classifications. It is important to note this, as while the New Zealand regulations may invoke specific classification numbers, they are only relevant for processing internally and are not required to appear on labelling and other information requirements.

Relationship of classifications with controls

The principal purpose of the hazard classification is to identify the controls that will be used to manage the effects of the substance. The HSNO controls are specified in regulations and fall into two broad areas, those related directly to the hazardous properties, and which are designed to prevent the hazard from occurring and to limit exposure to the hazard, and those that are related to managing the substance (such as requirements for information, packaging and disposal, and restrictions on accessing end use). Each hazard classification invokes a suite of controls (which we call “default” controls) that have been designed to provide appropriate management of the effects for most substances.

The Authority has the ability to vary the default controls for specific substances or groups of substances, based on assessment of the risk posed by those substances. These variations can involve addition, deletion or substitution of controls as may be appropriate.

Implementation is expected to be largely via adoption of codes of practice. These are more prescriptive documents, such as (New Zealand or international) standards, which can describe a specific means of meeting the performance-based requirements stipulated in the regulations. There may be more than one code of practice, therefore providing different means for meeting any particular regulatory requirement.

Codes of practice can be given quasi-judicial status by being approved by the Authority according to the process laid down in the HSNO Act. Approved codes of practice are not mandatory but adherence to an approved code can be used as a defence against prosecution for incident of non-compliance to which the code relates.

Draft codes of practice for signage and for material safety data sheets have been prepared and a further one on labelling is under way. All of these draw heavily on the harmonized hazard communication tools prepared for the GHS by the ILO Working Group on Harmonization of Chemical Hazard Communication. In particular, the hazard pictograms and precautionary statements suggested in the GHS have been generally adopted.

For the most part, the control regulations have been designed to be performance-based specifications, creating certainty on “what” requirements are to be met, but providing flexibility on how they may be met. In this way advances and developments in technological and methodological change can be accommodated within the existing regulatory structure.

HSNO Hazardous Property Classification Scheme **ANNEX**
Physical Hazard Classification

Property	**Explosiveness**						**Flammability**									**Capacity to Oxidise**		
Class	**Class 1**						**Class 2**		**Class 3**		**Class 4**					**Class 5**		
Subclass	**1.1** Mass explo-sion	**1.2** Pro-jection	**1.3** Fire & minor blast	**1.4** No signif-icant hazard	**1.5** Very insen-sitive	**1.6** Extre-mely insen-sitive	**2.1.1** Gases	**2.1.2** Aerosols	**3.1** Liquids	**3.2** Liquid desensit-ised ex-plosive	**4.1.1** Readily comb-ustible	**4.1.2** Self reactive	**4.1.3** Desen-sitised explo-sive	**4.2** Spontan-eously combust-ible	**4.3** Dan-gerous when wet	**5.1.1** Liquids/s olids	**5.1.2** Gases	**5.2** Organic peroxides
Hazard Classification	**1.1A**						**2.1.1A**	**2.1.2A**	**3.1A**	**3.2A**	**4.1.1A**	**4.1.2A**	**4.1.3A**	**4.2A**	**4.3A**	**5.1.1A**	**5.1.2A**	**5.2A**
	1.1B	**1.2B**		**1.4B**			**2.1.1B**		**3.1B**	**3.2B**	**4.1.1B**	**4.1.2B**	**4.1.3B**	**4.2B**	**4.3B**	**5.1.1B**		**5.2B**
	1.1C	**1.2C**	**1.3C**	**1.4C**					**3.1C**	**3.2C**		**4.1.2C**	**4.1.3C**	**4.2C**	**4.3C**	**5.1.1C**		**5.2C**
	1.1D	**1.2D**		**1.4D**	**1.5D**				**3.1D**			**4.1.2D**						**5.2D**
	1.1E	**1.2E**		**1.4E**								**4.1.2E**						**5.2E**
	1.1F	**1.2F**	**1.3F**	**1.4F**								**4.1.2F**						**5.2F**
	1.1G	**1.2G**	**1.3G**	**1.4G**								**4.1.2G**						**5.2G**
		1.2H	**1.3H**															
	1.1J	**1.2J**	**1.3J**															
		1.2K	**1.3K**															
	1.1L	**1.2L**	**1.3L**															
						1.6N												
				1.4S														

HSNO Hazardous Property Classification Scheme
Biological Hazard Classification

Property	Toxicity								Corrosiveness			Ecotoxicity			
Class	Class 6								Class 8			Class 9			
Sub-clas	6.1 Acutely toxic	6.3 Skin irritant	6.4 Eye irritant	6.5 Sensiti-sation	6.6 Mutagen	6.7 Carcinogen	6.8 Repro-ductive / develop-mental	6.9 Target organ	8.1 Metallic corrosive	8.2 Skin corrosive	8.3 Eye corrosive	9.1 Aquatic	9.2 Soil	9.3 Terrestrial vertebrates	9.4 Terrestrial invertebrates
Hazard Classifi-cation	6.1A	6.3A	6.4A	6.5A	6.6A	6.7A	6.8A	6.9A	8.1A	8.2A	8.3A	9.1A	9.2A	9.3A	9.4A
	6.1B	6.3B		6.5B	6.6B	6.7B	6.8B	6.9B		8.2B		9.1B	9.2B	9.3B	9.4B
	6.1C						6.8C			8.2C		9.1C	9.2C	9.3C	9.4C
	6.1D											9.1D	9.2D		
	6.1E														