The United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

Linkages with the Industrial Accidents Convention

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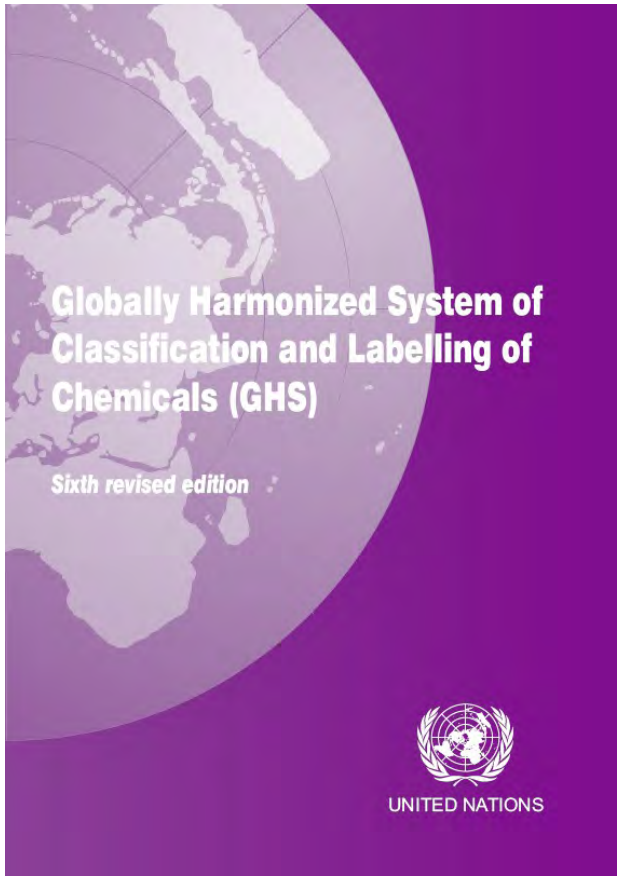
UNECE

Contents

Globally Harmonized System (GHS)

- International mandate
  - Agenda 21, Chapter 19 (Rio, 1992)
- Harmonises:
  - Classification (based on hazards)
  - Labelling
  - Safety Data Sheets (contents and format)
- Identifies and quantifies hazards
  - Hazard classes
  - Hazard categories
- 3 types of hazard
  - Physico-chemical, health and environmental
- Scope
  - All chemicals
  - All sectors (workplace, transport, consumer products...)



GHS - Industrial accidents convention

- "Hazardous activities" identified depending on:
  - Substances/mixtures hazardous properties and quantity
    - As defined in Annex I to the Convention (decision 2014/1)
  - Location criteria
    - As defined in the guidelines to facilitate the identification of hazardous activities for the purposes of the Convention (in accordance with article 4, paragraph 1, of the Convention):
      - decision 2000/3 as amended by decision 2004/2

GHS - Industrial accidents convention

- Annex I to the Convention provides:
  - List of hazardous properties (Part I) consistent with GHS criteria (except for properties not covered by the GHS)

Part I.
Categories of substances and mixtures not specifically named in Part II

Category in accordance with the United Nations Globally Harmonized System (GHS) of Classification and Labelling of Chemicals	*Threshold quantity (metric tons)*
1. Acute toxic, Category 1, all exposure routes[2]	20

  - List of named substances/mixtures (Part II) classified (by reference) according to the GHS

Part II.
Named substances

Substance	*Threshold quantity (metric tons)*
1a. Ammonium nitrate[22]	10 000

  - Threshold quantities of substances/mixtures covered in parts I and II, used to consider the activity as «hazardous» for the purposes of the Convention

GHS - Industrial accidents convention

- Location criteria
  - Refers to categories of substances in Annex I to the Convention, prior to its alignment with GHS

Part I.
Categories of substances and preparations not specifically named in Part II

Category		*Threshold quantity (metric tons)*
1.	Flammable[3]	50 000
2a.	Highly flammable[3 (a), (b)]	200
2b.	Highly flammable[3 (c)]	50 000
3.	Extremely flammable[4]	50
4.	Toxic[5]	200
5.	Very toxic[6]	20
6.	Oxidizing[7]	200
7a.	Explosive, where the substance, preparation or article falls under Division 1.4 of the GHS criteria[8]	200
7b.	Explosive, where the substance, preparation or article falls under Division 1.1, 1.2, 1.3, 1.5 or 1.6 of the GHS criteria[8]	50
8a.	Dangerous for the environment — "Toxic to aquatic organisms"[9]	500
8b.	Dangerous to the environment — "Very toxic to aquatic organisms"[10]	200

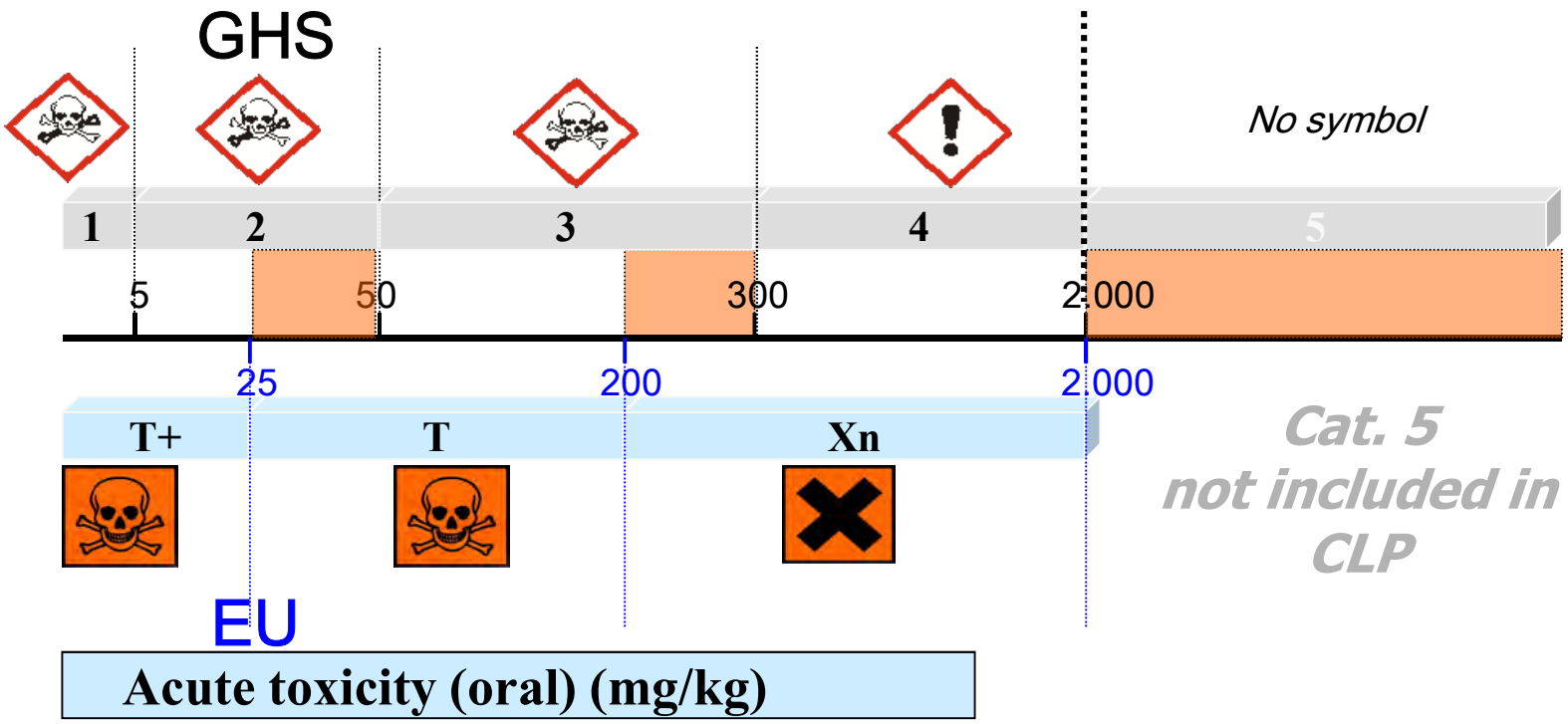
GHS criteria - EU criteria (CLP regulation)

- Conversion table old EU criteria to CLP
  - Annex VII, CLP Regulation

Translation between classification in accordance with Directive 67/548/EEC and this Regulation

Classification under Directive 67/548/EEC	Physical state of the substance when relevant	Classification under this Regulation		Note
		Hazard Class-and-Category	Hazard statement	
E; R2		No direct translation possible.		
E; R3		No direct translation possible.		
O; R7		Org. Perox. CD	H242	
		Org. Perox. EF	H242	
O; R8	gas	Ox. Gas 1	H270	
O; R8	liquid, solid	No direct translation possible.		
O; R9	liquid	Ox. Liq. 1	H271	
O; R9	solid	Ox. Sol. 1	H271	
R10	liquid	No direct translation possible. Correct translation of R10, liquid is: — Flam. Liq. 1, H224 if flashpoint < 23 °C and initial boiling point ≤ 35 °C — Flam. Liq. 2, H225 if flashpoint < 23 °C and initial boiling point > 35 °C — Flam. Liq. 3, H226 if flashpoint ≥ 23 °C		

GHS criteria - EU criteria (CLP regulation)



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Hazard class	Hazard category							
Explosivos	Unstable explosives		Div. 1.1	Div. 1.2	Div. 1.3	Div. 1.4	Div. 1.5	Div. 1.6
Flammable gases	1		2					
	1A	1B	2A	2B				
Aerosols	1		2	3				
Oxidizing gases	1							
Gases under pressure	Compressed Liquefied Refrigerated liquefied Dissolved							
Flammable liquids	1		2	3	4			
Flammable solids	1		2					
Self-reactive Subs/Mixt.	Type A		Type B	Type C	Type D	Type E	Type F	Type G
Pyrophoric liquids	1							
Pyrophoric solids	1							
Self-heating Subs/Mixt.	1		2					
Subst/Mix which in contact with water emit flammable gases	1		2	3				
Oxidizing liquids	1		2	3				
Oxidizing solids	1		2	3				
Organic peroxides	Type A		Type B	Type C	Type D	Type E	Type F	Type G
Corrosive to metals	1							
Desensitized explosives Solid/liquid	1		2	3	4			

GHS health hazards/categories covered by Annex I to the Convention

GHS health hazards/categories not covered by Annex I to the Convention

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Hazard class	Hazard category				
Acute toxicity (oral/dermal/inhalation)	1 all routes	2 all routes	3 inhalation	4	5
Skin corrosion/irritation	1 1A 1B 1C	2	3		
Serious eye damage/eye irritation	1	2 2A 2B			
Respiratory or skin sensitization	1 1A 1B				
Germ cell mutagenicity	1 1A 1B	2			
Carcinogenicity	1 1A 1B	2			
Reproductive toxicity	1 1A 1B	2	Effects on or via lactation		
Specific target organ toxicity – single exposure	1 2	3			
Specific target organ toxicity – repeated exposure	1 2				
Aspiration hazard	1 2				

GHS health hazards/categories covered by Annex I to the Convention

GHS health hazards/categories not covered by Annex I to the Convention

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Hazard class	Hazard category			
Hazardous to the aquatic environment	Acute 1	Acute 2	Acute 3	
	Chronic 1	Chronic 2	Chronic 3	Chronic 4
Hazardous to the ozone layer	1			

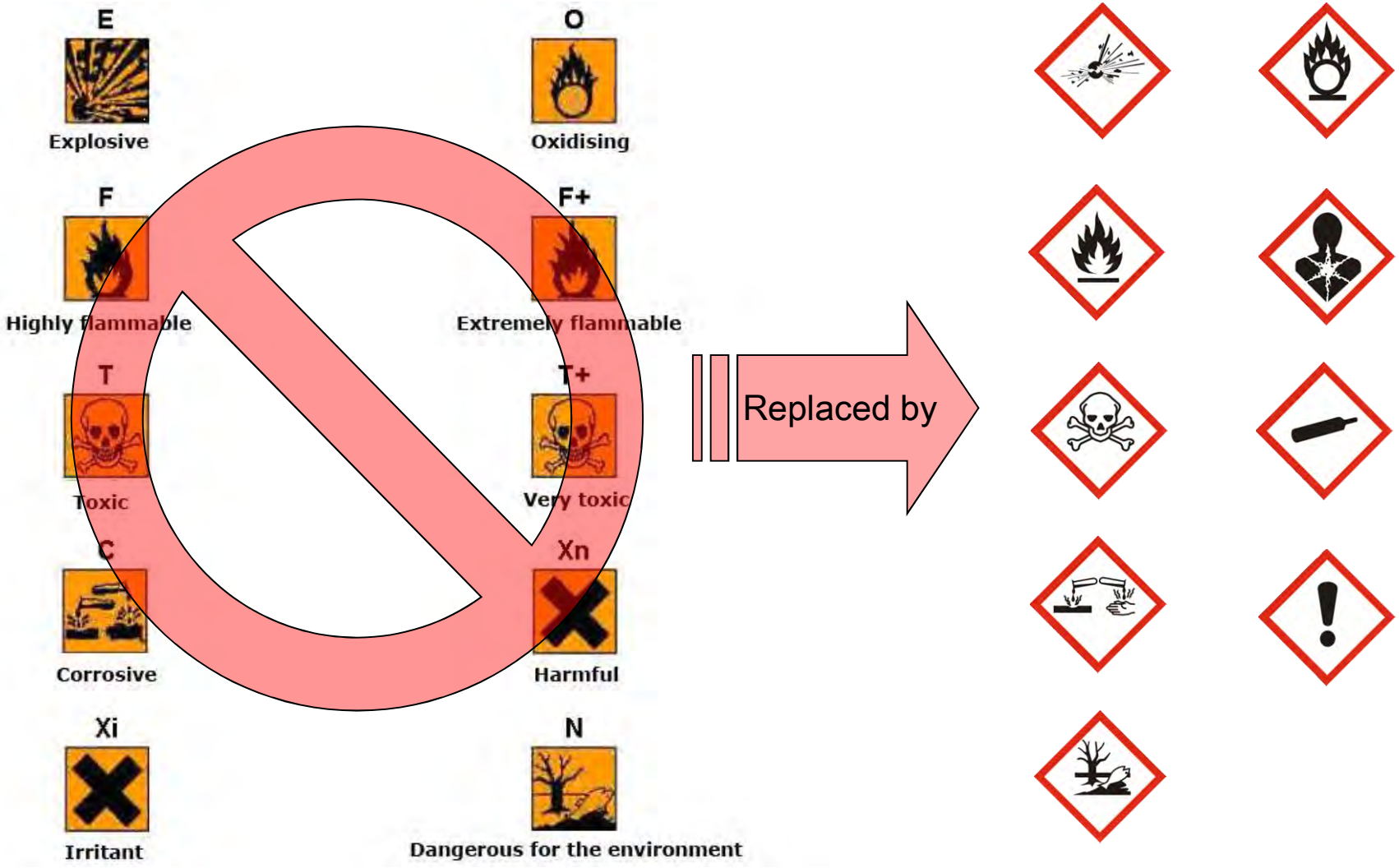
GHS health hazards/categories covered by Annex I to the Convention

GHS health hazards/categories not covered by Annex I to the Convention

Additional hazards covered by Annex I to the Convention:

- Substances and mixtures which react violently with water (e.g. acetyl chloride, titanium tetrachloride)
- Substances and mixtures which in contact with water liberate toxic gas (substances and mixtures which in contact with water or damp air evolve gases classified for acute toxicity in category 1, 2 or 3, such as aluminium phosphide or phosphorus pentasulphide)

EU labelling changes after GHS



GHS hazard communication: SDS

- harmonized content and format (16 sections, in the following order)

1. Identification (subst/mixt. and supplier)
2. Hazard(s) identification
3. Composition/information on ingredients
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 (including on preparation and revision of the SDS)

For detailed guidance on the preparation of SDS, see Annex 4 of the GHS

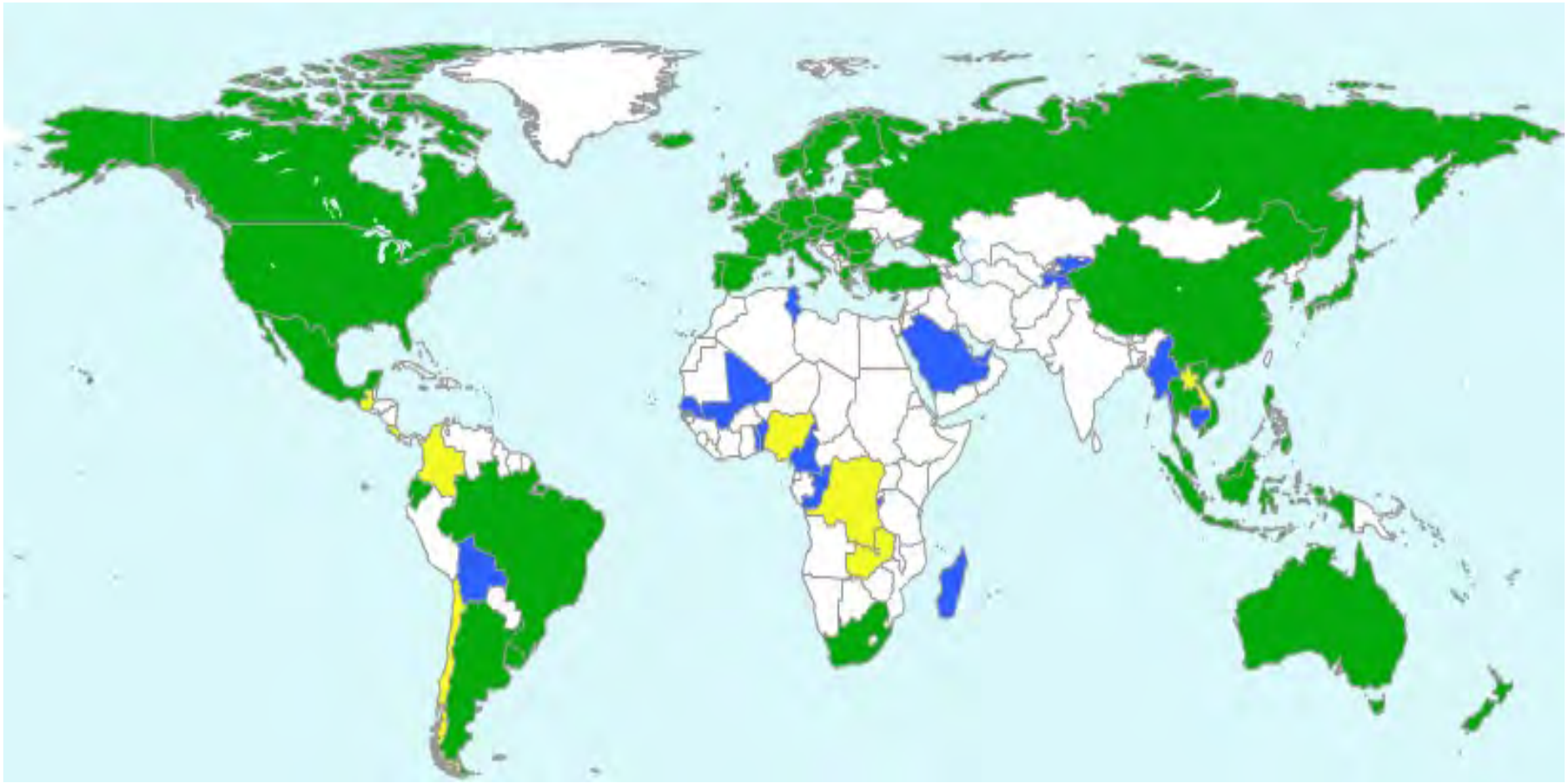
ECOSOC GHS Sub-Committee

- GHS Rev.7 (to be published in 2017)
- Some changes in classification criteria/guidance since Rev.4:
  - Alternative test method for oxidizing solids (Test O.3)
  - Skin corrosion/irritation and serious eye damage/eye irritation: revised guidance for classification
  - New sub-category for pyrophoric gases
  - New hazard class for desensitized explosives
  - New sub-category with the hazard class “flammable gases”
- Some of the items in the programme of work for 2017-2018
  - Revision of chapter 2.1 (explosives)
  - Dust explosion hazards
  - Criteria for water-reactivity
  - Stability tests for industrial nitrocellulose

(For the full programme of work for 2017-2018 refer to see ST-SG-AC10-C4-64, Annex III)

GHS implementation status: overview

Detailed information about the status of implementation worldwide:
http://www.unece.org/trans/danger/publi/ghs/implementation_e.html



Mandatory/voluntary	Preparation	Capacity building/awareness raising	Information not available

Thank you!

http://www.unece.org/trans/danger/danger.htm

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