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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

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Item 2(d) of the provisional agenda

UPDATING OF THE GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS

Revision of Annexes 1, 2 and 3 of the GHS

Addendum 1

This document contains the text of ST/SG/AC.10/C.4/2006/9/Add.1 as amended to take into account the decisions on codification of hazard and precautionary statements adopted by the Sub-Committee of Experts at its 11th session (see ST/SG/AC.10/C.4/22, paras. 39-48 and Annex 1).

It also contains proposals for editorial amendments of the classification summary tables (current Annex 2 of the GHS) which are intended to solve current inconsistencies in layout and contents as submitted by the secretariat to the correspondence group for consideration.

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“ANNEX 1

CLASSIFICATION

SUMMARY TABLES

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Annex 1

CLASSIFICATION SUMMARY TABLES

A1.1 Introduction

A1.1.1 This Annex contains a summary of the classification criteria in the individual hazard class chapters in Parts 2, 3 and 4 of the GHS. The criteria in those hazard class chapters shall always be referred to for full information on the classification criteria for substances and mixtures.

A1.2 Classification summary tables for physical hazards

A1.2.1 ***Explosives*** *(see Chapter 2.1 for details)*

Hazard category	Explosives: Classification criteria
Unstable explosives	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*
Division 1.1	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*
Division 1.2	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*
Division 1.3	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*
Division 1.4	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*
Division 1.5	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*
Division 1.6	According to the results of the test in Part I of the *Manual of Tests and Criteria, UN Recommendations on the Transport of Dangerous Goods.*

A1.2.2 ***Flammable gases*** *(See Chapter 2.2 for details)*

Hazard category	Flammable gases: Classification criteria
1	Gases and gas mixtures, which at 20 °C and a standard pressure of 101.3 kPa: (a) are ignitable when in a mixture of 13% or less by volume in air; or (b) have a flammable range with air of at least 12 percentage points regardless of the lower flammable limit.
2	Gases or gas mixtures, other than those of Category 1, which, at 20 °C and a standard pressure of 101.3 kPa, have a flammable range while mixed in air.

A1.2.3 ***Flammable aerosols*** *(See Chapter 2.3 for details)*

Hazard category	Flammable aerosols: Classification criteria
1	On the basis of its components, of its chemical heat of combustion and, if applicable, of the results of the foam test, for foam aerosols, and of the ignition distance test and enclosed space test, for spray aerosols (see decision logic in 2.3.4.1 of Chapter 2.3).
2	On the basis of its components, of its chemical heat of combustion and, if applicable, of the results of the foam test, for foam aerosols, and of the ignition distance test and enclosed space test, for spray aerosols (see decision logic in 2.3.4.1 of Chapter 2.3).

A1.2.4 ***Oxidizing gases*** *(See Chapter 2.4 for details)*

Hazard category	Oxidizing gases: Classification criteria
1	Any gas which may, generally by providing oxygen, cause or contribute to the combustion of other material more than air does.

A1.2.5 ***Gases under pressure*** *(See Chapter 2.5 for details)*

Hazard category	Gases under pressure: Classification criteria
Compressed gas	A gas, which when packaged under pressure is entirely gaseous at -50 °C; including all gases with a critical temperature ≤ -50 °C.
Liquefied gas	A gas which when packaged under pressure, is partially liquid at temperatures above -50 °C. A distinction is made between: i) *High pressure liquefied gas*: a gas with a critical temperature between -50 °C and +65 °C; and ii) *Low pressure liquefied gas*: a gas with a critical temperature above +65 °C.
Refrigerated liquefied gas	A gas which when packaged is made partially liquid because of its low temperature.
Dissolved gas	A gas which when packaged under pressure is dissolved in a liquid phase solvent.

A1.2.6 ***Flammable liquids*** *(See Chapter 2.6 for details)*

Hazard category	Flammable liquids: Classification criteria
1	Flash point < 23 °C and initial boiling point ≤ 35 °C.
2	Flash point < 23 °C and initial boiling point >35 °C.
3	Flash point ≥ 23 °C and ≤ 60 °C.
4	Flash point > 60 °C and ≤ 93 °C.

A1.2.7 ***Flammable solids*** *(See Chapter 2.7 for details)*

Hazard category	Flammable solids: Classification criteria
1	Burning rate test: Substances and mixtures other than metal powders: (a) wetted zone does not stop fire and (b) burning time < 45 s or burning rate > 2.2 mm/s Metal powders: - burning time ≤ 5 min.
2	Burning rate test: Substances and mixtures other than metal powders: (a) wetted zone stops the fire for at least 4 minutes and (b) burning time < 45 s or burning rate > 2.2 mm/s Metal powders : - burning time > 5 min and ≤ 10 min.

A1.2.8 ***Self-reactive substances and mixtures*** *(See Chapter 2.8 for details)*

Hazard category	Self-reactive substances and mixtures: Classification criteria
Type A	According to the results of tests in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.8.4.1 of Chapter 2.8.
Type B	According to the results of tests in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.8.4.1 of Chapter 2.8.
Type C and D	According to the results of tests in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.8.4.1 of Chapter 2.8.
Type E and F	According to the results of tests in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.8.4.1 of Chapter 2.8.
Type G	According to the results of tests in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.8.4.1 of Chapter 2.8.

A1.2.9 ***Pyrophoric liquids*** *(See Chapter 2.9 for details)*

Hazard category	Pyrophoric liquids: Classification criteria
1	The liquid ignites within 5 min when added to an inert carrier and exposed to air, or it ignites or chars a filter paper on contact with air within 5 min.

A1.2.10 ***Pyrophoric solids*** *(See Chapter 2.10 for details)*

Hazard category	Pyrophoric solids: Classification criteria
1	The solid ignites within 5 minutes of coming into contact with air.

A1.2.11 ***Self-heating substances and mixtures*** *(See Chapter 2.11 for details)*

Hazard category	Self-heating substances and mixtures: Classification criteria
1	A positive result is obtained in a test using a 25 mm sample cube at 140 °C.
2	(a) A positive result is obtained in a test using a 100 mm sample cube at 140 °C and a negative result is obtained in a test using a 25 mm cube sample at 140 °C and the substance is to be packed in packages with a volume of more than 3 m3; or (b) A positive result is obtained in a test using a 100 mm sample cube at 140 °C and a negative result is obtained in a test using a 25 mm cube sample at 140 °C, a positive result is obtained in a test using a 100 mm cube sample at 120 °C and the substance is to be packed in packages with a volume of more than 450 litres; or (c) A positive result is obtained in a test using a 100 mm sample cube at 140 °C and a negative result is obtained in a test using a 25 mm cube sample at 140 °C and a positive result is obtained in a test using a 100 mm cube sample at 100 °C.

A1.2.12 ***Substances and mixtures, which on contact with water, emit flammable gases*** *(See Chapter 2.12 for details)*

Hazard category	Substances and mixtures, which on contact with water, emit flammable gases: Classification criteria
1	Any substance which reacts vigorously with water at ambient temperatures and demonstrates generally a tendency for the gas produced to ignite spontaneously, or which reacts readily with water at ambient temperatures such that the rate of evolution of flammable gas is equal to or greater than 10 litres per kilogram of substance over any one minute.
2	Any substance which reacts readily with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 20 litres per kilogram of substance per hour, and which does not meet the criteria for Category 1.
3	Any substance which reacts slowly with water at ambient temperatures such that the maximum rate of evolution of flammable gas is equal to or greater than 1 litre per kilogram of substance per hour, and which does not meet the criteria for Categories 1 and 2.

A1.2.13 ***Oxidizing liquids*** *(See Chapter 2.13 for details)*

Hazard category	Oxidizing liquids: Classification criteria
1	Any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, spontaneously ignites; or the mean pressure rise time of a 1:1 mixture, by mass, of substance and cellulose is less than that of a 1:1 mixture, by mass, of 50% perchloric acid and cellulose.
2	Any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 40% aqueous sodium chlorate solution and cellulose; and the criteria for Category 1 are not met.
3	Any substance which, in the 1:1 mixture, by mass, of substance and cellulose tested, exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 mixture, by mass, of 65% aqueous nitric acid and cellulose; and the criteria for Categories 1 and 2 are not met.

A1.2.14 ***Oxidizing solids*** *(See Chapter 2.14 for details)*

Hazard category	Oxidizing solids: Classification criteria
1	Any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time less than the mean burning time of a 3:2 mixture, by mass, of potassium bromate and cellulose.
2	Any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 2:3 mixture (by mass) of potassium bromate and cellulose and the criteria for Category 1 are not met.
3	Any substance which, in the 4:1 or 1:1 sample-to-cellulose ratio (by mass) tested, exhibits a mean burning time equal to or less than the mean burning time of a 3:7 mixture (by mass) of potassium bromate and cellulose and the criteria for Categories 1 and 2 are not met.

A1.2.15 ***Organic peroxides*** *(See Chapter 2.15 for details)*

Hazard category	Organic peroxides: Classification criteria
Type A	According to the results of test series A to H in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.15.4.1 of Chapter 2.15.
Type B	According to the results of test series A to H in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.15.4.1 of Chapter 2.15.
Types C and D	According to the results of test series A to H in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.15.4.1 of Chapter 2.15.
Types E and F	According to the results of test series A to H in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.15.4.1 of Chapter 2.15.
Type G	According to the results of test series A to H in the *UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria, Part II* and the application of the decision logic under 2.15.4.1 of Chapter 2.15.

A1.2.16 ***Corrosive to metals*** *(See Chapter 2.16 for details)*

Hazard category	Substances and mixtures corrosive to metals: Classification criteria
1	Corrosion rate on steel or aluminium surfaces exceeding 6.25 mm per year at a test temperature of 55 °C.

A1.3 Classification summary tables for health hazards

A1.3.1 *Acute toxicity* *(See Chapter 3.1 for details)*

Hazard category	Acute toxicity: Classification criteria
1	Oral $LD_{50} \leq 5$ mg/kg bodyweight, or Dermal $LD_{50} \leq 50$ mg/kg bodyweight, or Inhalation (gas) $LC_{50} \leq 100$ ppm, or Inhalation (vapour) LC50 ≤ 0.5 mg/l, or Inhalation (dust/mist) $LC_{50} \leq 0.05$ mg/l
2	Oral LD_{50} >5 but < 50 mg/kg bodyweight, or Dermal LD_{50} >50 but < 200 mg/kg bodyweight, or Inhalation (gas) LC_{50} >100 but < 500 ppm, or Inhalation (vapour) LC_{50} > 0.5 but < 2.0 mg/l, or Inhalation (dust/mist) LC_{50} >0.05 but ≤ 0.5 mg/l
3	Oral LD_{50} >50 but ≤ 300 mg/kg bodyweight, or Dermal LD_{50} > 200 but ≤ 1000 mg/kg bodyweight, or Inhalation (gas) LC_{50} >500 but ≤ 2500 ppm, or Inhalation (vapour) LC_{50} >2 but ≤ 10.0 mg/l, or Inhalation (dust/mist) LC_{50} >0.5 but ≤ 1.0 mg/l
4	Oral LD_{50} >300 but ≤ 2000 mg/kg bodyweight, or Dermal LD_{50} >1000 but ≤ 2000 mg/kg bodyweight, or Inhalation (gas) LC_{50} >2500 but ≤ 5000 ppm, or Inhalation (vapour) LC_{50} >10 but ≤ 20 mg/l, or Inhalation (dust/mist) LC_{50} >1 but ≤ 5 mg/l
5	Oral LD_{50} >2000 but ≤ 5000 mg/kg bodyweight, For gases, vapours, dusts, mists, LC_{50} in the equivalent range of the oral and dermal LD_{50} (i.e., between 2000 and 5000 mg/kg bodyweight). See also the additional criteria: (a) Indication of significant effect in humans; (b) Any mortality at Category 4; (c) Significant clinical signs at Category 4; (d) Indication from other studies.

A1.3.2 ***Skin corrosion/irritation*** *(See Chapter 3.2 for details)*

Hazard category	Skin corrosion/irritation: Classification criteria
1 **Corrosive** **Including sub-categories 1A, 1B, and 1C** [1]~~;~~ ~~(See Chapter 3.2, Table 3.2.1)~~	1. *For substances and tested mixtures:* (a) Human experience showing irreversible damage to the skin; (b) Structure/activity or structure property relationship to a substance or mixture already classified as corrosive; (c) pH extremes of ≤ 2 and ≥ 11.5 including acid/alkali reserve capacity; (d) Positive results in a valid and accepted *in vitro* skin corrosion test; or (e) Animal experience or test data that indicate that the substance/mixture causes irreversible damage to the skin in at least 1 of 3 tested animals following exposure of up to 4 hours (See Table 3.2.1). 2. *If data for ~~a~~ the complete mixture are not available,* use bridging principles in 3.2.3.2. 3. *If bridging principles do not apply,* (a) For mixtures containing at least one corrosive ingredient for which the additivity principle applies:~~where substances can be added~~: Classify as corrosive if the sum of the concentrations of the ingredients classified as corrosive~~corrosive substances~~ in the mixture is ≥ 5%~~ (for substances with additivity)~~; or (b) For mixtures containing corrosive or irritant ingredients for which the additivity principle does not apply:~~where substances cannot be added~~: classify as corrosive if the mixture contains ≥ 1% of an ingredient classified as corrosive~~≥ 1%~~. (See 3.2.3.3.4 and Table 3.2.4).
2 **Irritant** (~~applies to~~may be applied by all authorities)	1. *For substances and tested mixtures* (a) Human experience or data showing reversible damage to the skin following exposure of up to 4 hours; (b) Structure/activity or structure property relationship to a substance or mixture already classified as an irritant; (c) Positive results in a valid and accepted *in vitro* skin irritation test; or (d) Animal experience or test data that indicate that the substance/mixture causes reversible damage to the skin following exposure of up to 4 hours, mean value of ≥ 2.3 < 4.0 for erythema/eschar or for oedema, or inflammation that persists to the end of the observation period, in at least 2 of 3 tested animals (see Table 3.2.2). 2. *If data for ~~a~~ the complete mixture are not available,* use bridging principles in 3.2.3.2. 3. *If bridging principles do not apply,* classify as ~~an~~ irritant if: (a) For mixtures containing at least one corrosive or irritant ingredient for which the additivity principle applies:

[1] *See 3.2.2.4.2 and Table 3.2.1 in Chapter 3.2 for details on the use of subcategories 1A, 1B and 1C.*

Hazard category	Skin corrosion/irritation: Classification criteria
	~~where substances can be added~~: (i) if the sum of the concentrations of the ingredients classified as irritant (Skin Category 2) ~~concentrations of corrosive substances~~ in the mixture is ≥ 1% but ~~≤~~ < 5%; or (ii) if the sum of the concentrations of the ingredients classified as irritant (Skin Category 2)~~of irritant substances~~ is ≥ 10%; or (iii) if the sum of ~~{~~[10 × the concentrations of the ingredients classified as corrosive ~~ingredients~~(Skin Category 1)~~}~~] + (the concentrations of the ingredients classified as irritant (Skin Category 2)~~ingredients~~) is ≥ 10%; ~~or~~ (b) For mixtures containing~~where substances cannot be added~~ ingredients classified as irritant, for which the additivity principle do not apply, classify as irritant (Skin Category 2) if ~~:~~ the concentration of the ingredients classified as irritant (Skin Categories 2 or 3) is ≥ 3%. (See 3.2.3.3.4 and Table 3.2.4).
3 **Mild irritant** (~~applies to~~may be applied by some authorities only (e.g.: pesticides))	1. *For substances and tested mixtures* Animal experience or test data that indicates that the substance/mixture causes reversible damage to the skin following exposure of up to 4 hours, mean value of ≥ 1.5 < 2.3 for erythema/eschar in at least 2 of 3 tested animals (See Table 3.2.2). 2. *If data for ~~a~~ the complete mixture are not available*, ~~and~~use the bridging principles in 3.2.3.2. 3. *If bridging principles do not apply,* classify as mild irritant (Skin Category 3) ~~if~~: ~~(a)~~ For mixtures containing at least one corrosive or irritant ingredient for which the additivity principle applies: ~~where substances can be added~~ (i) if the sum of the concentrations of the ingredients classified as ~~concentrations of~~ irritant (Skin Category 2)~~substances~~ in the mixture is ≥ 1% but ~~≤~~ < 10%; or ~~(b) For mixtures where substances cannot be added:~~ ~~the sum of the concentrations of mild irritant substances is ≥ 10%;~~ (~~e~~ii) if ~~–~~the sum of ~~{~~[10 × the concentrations of the ingredients classified as corrosive (Skin Category 1) ~~substances)~~] + the concentrations of the ingredients classified as irritant (Skin Category 2) ~~substances~~) is ≥ 1% but ~~≤~~ < 10%; or (~~d~~iii) if the sum of ~~{~~[10 × the concentrations of the ingredients classified as corrosive (Skin Category 1)~~substances)~~] + ~~{~~[the concentrations of the ingredients classified as irritant (Skin Category 2) ~~substances)~~] + [~~{~~the concentrations of mild irritant (Skin Category 3)~~substances)~~] is ≥ 10%.

A1.3.3 ***Serious eye damage/eye irritation*** *(See Chapter 3.3 for details)*

Hazard category	Serious eye damage/eye irritation: Classification criteria
1 **Irreversible effects**	1. *For substances and tested mixtures* (a) Classification as corrosive to skin; (b) Human experience or data showing damage to the eye which is not fully reversible within 21 days; (c) Structure/activity or structure property relationship to a substance or mixture already classified as corrosive; (d) pH extremes of < 2 and > 11.5 including buffering capacity; *Note by the secretariat: These pH values need to be checked. In paragraph 3.3.2.4 of the GHS, the values are ≤2 and ≥11.5, in Figure 3.3.1 (step 3b): < 2 and > 11.5; table 3.3.4 and decision logics 3.3.1 and 3.3.2: ≤2 and ≥ 11.5.* (e) Positive results in a valid and accepted *in vitro* test to assess serious damage to eyes; or (f) Animal experience or test data that the substance or mixture produces either (i) in at least one animal, effects on the cornea, iris or conjunctiva that are not expected to reverse or have not reversed; or (ii) in at least 2 of 3 tested animals a positive response of corneal opacity ≥ 3 and/or iritis >1.5 (see Table 3.3.1). 2. *If data for ~~a~~ the complete mixture are not available,* use bridging principles in 3.3.3.2. 3. *If bridging principles do not apply,* (a) For mixtures containing at least one corrosive or irritant ingredient for which the additivity principle apply~~where substances can be added~~: Classify ~~as~~ in Category 1 if the sum of the concentrations of the ingredients classified as corrosive to the skin and/or eyes (skin/eye Category 1) ~~substances classified as corrosive to the skin and/or~~ ~~eye Category 1 substances~~ in the mixture is ≥ 3%; or (b) For mixtures ~~where substances cannot be added~~ containing at least one corrosive ingredient for which the additivity principle do not apply: Classify in Category 1 if the concentration of corrosive (Category 1) ingredients in the mixture is ≥ 1% (see 3.3.3.3.4 and table 3.3.4).

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Hazard category	Serious eye damage/eye irritation: Classification criteria *(cont"d)*
2A **Irritant**	1. *For substances and tested mixtures* (a) Classification as severe skin irritant; (b) Human experience or data showing production of changes in the eye which are fully reversible within 21 days; (c) Structure/activity or structure property relationship to a substance or mixture already classified as an eye irritant; (d) Positive results in a valid and accepted *in vitro* eye irritation test; or (e) Animal experience or test data that indicate that the substance/mixture produces a positive response in at least 2 of 3 tested animals of: (i) corneal opacity ≥1; and/or (ii) iritis ≥1; and/or (iii) conjunctival redness ≥ 2; and/or (~~iii~~iv) conjunctival edema (chemosis) ≥2 (Table 3.3.2). 2. *If data for ~~a~~ the complete mixture are not available,* use bridging principles in 3.3.3.2. 3. *If bridging does not apply,* classify as an irritant (Category 2A) if: (a) For mixtures containing one or more corrosive or irritant ingredients for which the principle of additivity applies: ~~where substances can be added~~: (i) if the sum of the concentrations of the ingredients classified as corrosive to the skin and/or eyes (skin/eye Category 1) ~~skin and/or eye Category 1 substances~~ in the mixture is ≥ 1% but ~~≤~~ < 3%; or (ii) if the sum of the concentrations of the ingredients classified as eye irritant (Eye Category 2/2A)~~eye irritant substances~~ is ≥ 10%; or (iii) if the sum of [10 × (the concentrations of the ingredients classified as corrosive to the eyes (eye Category 1)) + the concentrations of the ingredients classified as eye irritants (Eye Category 2/2A)] is ≥ 10%; or (~~iii~~iv) if the sum of [(10 × the sum of the concentrations of ingredients classified as skin corrosive and those classified as eye corrosive (skin Category 1+eye Category 1)~~skin and/or eye category 1 substances~~) + (the concentrations of ingredients classified as eye irritants (eye Category 2A/2B))~~eye irritants)~~] is ≥ 10%; (b) For mixtures ~~where substances cannot be added~~containing at least one ingredient classified as eye irritants for which the principle of additivity do not apply: Classify in Category 2 if the concentration of the ingredients classified as eye irritants (Category 2) in the mixture is ≥ 3% (see 3.3.3.3.4 and Table 3.3.4).

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Hazard category	Serious eye damage/eye irritation: Classification criteria *(cont"d)*
2B **Mild irritant**	1. *For substances and tested mixtures* (a) Human experience or data showing production of mild eye irritation; (b) Animal experience or test data that indicate that the lesions are fully reversible within 7 days (see Table 3.3.2). 2. *If data for ~~a~~ the complete mixture are not available,* use bridging principles in 3.3.3.2. 3. *If bridging does not apply,* classify as an irritant (2B) if: (i) if the sum of the concentrations of the ingredients classified as corrosive to the skin and/or eyes (skin/eye Category 1) ~~skin and/or eye Category 1 substances~~ in the mixture is ≥ 1% but ~~≤~~ < 3%; or (ii) if the sum of the concentrations of the ingredients classified as eye irritant (Eye Category 2/2A)~~eye irritant substances~~ is ≥ 10%; or (iii) if the sum of [10 × (the concentrations of the ingredients classified as corrosive to the eyes (eye Category 1)) + the concentrations of the ingredients classified as eye irritants (Eye Category 2/2A)] is ≥ 10%; or (~~iii~~iv) if the sum of [(10 × the sum of the concentrations of ingredients classified as skin corrosive and those classified as eye corrosive (skin Category 1+eye Category 1)~~skin and/or eye category 1 substances~~) + (the concentrations of ingredients classified as eye irritants (eye Category 2A/2B))~~eye irritants)~~] is ≥ 10%; (b) For mixtures ~~where substances cannot be added~~containing at least one ingredient classified as eye irritants for which the principle of additivity do not apply: Classify in Category 2 if the concentration of at least one ingredient classified as eye irritant (Category 2) in the mixture is ≥ 3% (see 3.3.3.3.4 and Table 3.3.4).

A1.3.4.1 ***Respiratory sensitizer*** *(See Chapter 3.4 for details)*

Hazard category	Respiratory sensitizers: Classification criteria
1	1. *For substances and tested ~~mixtures~~mixtures* (a) If there is human evidence that the individual substance induces specific respiratory hypersensitivity, and/or (b) Where there are positive results from an appropriate animal test. 2. *If data for the complete mixture are not available*, use bridging principles in 3.4.3.2 ~~*If these mixture meets the criteria*~~ ~~set forth in the "Bridging Principles" through one of the following:~~ ~~(a) Dilution;~~ ~~(b) Batching;~~ ~~(c) Substantially similar mixture.~~ 3. *If bridging principles do not apply,* classify in Category 1 if the concentration of at least one ingredient classified as respiratory sensitizer (Category 1) in the mixture is: ~~if any individual respiratory sensitizer in the mixture has a concentration of:~~ (i) For solids and liquids: ≥ 0.1 % or ≥ 1.0% w/w ~~Solid/liquid~~ (see 3.4.3.3 and table 3.4.1) (ii) For gases: ≥ 0.1 % or ≥ 0.2% v/v ~~Gas.~~(See 3.4.3.3 and table 3.4.1)

A1.3.4.2 ***Skin sensitizer*** *(See Chapter 3.4 for details)*

Hazard category	Skin sensitizers: Classification criteria
1	1. *For substances and tested ~~mixtures~~mixtures* (a) If there is evidence in humans that the individual substance can induce sensitization by skin contact in a substantial number of persons, or (b) Where there are positive results from an appropriate animal test. 2. *If data for the complete mixture are not available*, use bridging principles in 3.4.3.2. ~~*If the mixture meets the criteria*~~ ~~set forth in the "Bridging Principles" through one of the following:~~ ~~(a) Dilution;~~ ~~(b) Batching;~~ ~~(c) Substantially similar mixture.~~ ~~4~~3. *If bridging principles do not apply,*classify in Category 1 if ~~any individual skin sensitizer in~~ the concentration of at least one ingredient ~~the mixture~~ classified as skin sensitizer in the mixture is~~has a concentration of~~: ≥ 1.0% solid/liquid/gas

A1.3.5 ***Germ cell mutagenicity*** *(See Chapter 3.5 for details)*

Hazard category	Germ cell mutagenicity: Classification criteria
1 (Both 1A and 1B)	1. *For substances and tested mixtures* Chemicals ~~K~~known to induce heritable mutations or to be regarded as if ~~it~~ they induce~~s~~ heritable mutations in the germ cells of humans (see criteria in 3.5.2); ~~or~~ 2. *If data for the complete mixture are not available*, use bridging principles in 3.5.3.2. 3. *If bridging principles do not apply*, classify in Category 1 if the concentration of at least one ingredient classified as Category 1 mutagen in the mixture is~~mixtures containing~~ ≥ 0.1 %~~ of such a substance~~.
2	1. *For substances and tested mixtures* Chemicals which ~~C~~cause~~s~~ concern for humans owing to the possibility that ~~it~~ they may induce heritable mutations in the germ cells of humans (see criteria in 3.5.2); ~~or~~ 2. *If data for the complete mixture are not available*, use bridging principles in 3.5.3.2. 3. *If bridging principles do not apply*, classify in Category 2 if the concentration of at least one ingredient classified as Category 2 mutagen in the mixture is ≥ 1.0 % ~~of such a substance~~.

A1.3.6 ***Carcinogenicity*** *(See Chapter 3.6 for details)*

Hazard category	Carcinogenicity: Classification criteria
1 (Both 1A and 1B)	1. *For substances and tested mixtures* Known or presumed human carcinogens ~~including mixtures containing ≥ 0.1% of such a substance.~~ 2. *If data for the complete mixture are not available*, use bridging principles in 3.5.3.2. 3. *If bridging principles do not apply*, classify in Category 1 if the concentration of at least one ingredient classified as Category 1 carcinogen in the mixture is ≥ 0.1%.

Hazard category	Carcinogenicity: Classification criteria
2	1. *For substances and tested mixtures* Suspected human carcinogens ~~including mixtures containing more than ≥ 0.1 or ≥1.0 % of such a substance~~ 2. *If data for the complete mixture are not available*, use bridging principles in 3.5.3.2. 3. *If bridging principles do not apply*, classify in Category 2 if the concentration of at least one ingredient classified as Category 2 carcinogen in the mixture is ≥ 0.1% or ≥ 1.0% (see 3.6.3.3 and Notes 1 and 2 ~~in~~ to Table 3.6.1 ~~of Chapter 3.6~~ [a]).

[a] *Some authorities will choose to label according to this provision, others may not*

A1.3.7 ~~***Toxic to reproduction***~~***Reproductive toxicity*** *(See Chapter 3.7 for details)*

Hazard category	**Reproductive toxicity**~~**Toxic to reproduction**~~**: Classification criteria**
1 (Both 1A and 1B)	1. *For substances and tested mixtures* Known or presumed human reproductive toxicants (see criteria in section 3.7.2 of Chapter 3.7); ~~or~~ 2. *If data for the complete mixture are not available*, see bridging principles in 3.7.3.2. 3. *If bridging principles do not apply*, classify in Category 1 if the concentration of at least one ingredient classified as Category 1 reproductive toxicant in the mixture is ≥ 0.1 % or ≥ 0.3% (see 3.7.3.3 and Notes 1 and 2 ~~of~~ to Table 3.7.1). ~~mixtures containing ≥ 0.1% or ≥ 0.3 % of such a substance~~ ~~(see section 3.7.3 and Notes 1 and 2 of Table 3.7.1, Chapter 3.7).~~
2	1. *For substances and tested mixtures* Suspected human reproductive toxicants (see criteria in section 3.7.2 of Chapter 3.7); ~~or~~ 2. *If data for the complete mixture are not available*, see bridging principles in 3.7.3.2. 3. *If bridging principles do not apply*, classify in Category 2 if the concentration of at least one ingredient classified as Category 2 reproductive toxicant in the mixture is ≥ 0.1% or ≥ 3.0% (see 3.7.3.3 and Notes 3 and 4 ~~of~~ to Table 3.7.1).

Hazard category	Reproductive toxicity~~Toxic to reproduction~~: Classification criteria
Additional category for effects on or via lactation	1. *For substances and tested mixtures* Substances which cause concern for the health of breastfed children (see criteria in section 3.7.2 of Chapter 3.7); ~~or~~ 2. *If data for the complete mixture are not available*, see bridging principles in 3.7.3.2. 3. *If bridging principles do not apply*, classify in this additional category if the concentration of at least one ingredient classified for effects on or via lactation in the mixture is ≥ 0.1% or ≥ 3.0% (see 3.7.3 and Notes 1 and 2 to Table 3.7.1~~, Chapter 3.7~~).

A1.3.8 ***Specific target organ ~~systemic~~ toxicity following single exposure*** *(See Chapter 3.8 for details)*

Hazard category	Specific target organ ~~systemic~~ toxicity following single exposure: Classification criteria
1	1. *For substances and tested mixtures*: Reliable evidence on the substance or mixture (including bridging) of an adverse effect on specific organ/systems or systemic toxicity in humans or animals. May use guidance values in Table 3.8.1, Category 1 criteria as part of weight of evidence evaluation. May be named for specific organ/system. 2. *If data for the complete mixture are not available*, see bridging principles in 3.8.3.3. 3. *If bridging principles do not apply*, classify in Category 1 if the concentration of at least one ingredient classified as Category 1 specific target organ toxicant in the mixture is ~~Mixture that lacks sufficient data, but contains Category 1 ingredient at a concentration of~~ ≥ 1.0 % or ~~to <~~ ≥ 10.0%~~ for some authorities; and ≥10.0% for all authorities~~(see 3.8.3.4 and notes 1 and 2 to table 3.8.2).

Hazard category	Specific target organ ~~systemic~~ toxicity following single exposure: Classification criteria
2	1. *For substances and tested mixtures*: Evidence on the substance or mixture (including bridging) of an adverse effect on specific organ/systems or systemic toxicity from animal studies or humans considering weight of evidence and guidance values in Table 3.8.1, Category 2 criteria. May be named for specific organ/system affected. 2. *If data for the complete mixture are not available*, see bridging principles in 3.8.3.3. 3. *If bridging principles do not apply*, classify in Category 2 (i) if the concentration of at least one ingredient classified as Category 1 specific target organ toxicant in the mixture is ≥ 1.0 % and < 10 % (see 3.8.3.4 and note 3 to table 3.8.2); or (ii) if the concentration of at least one ingredient classified as Category 2 specific target organ toxicant in the mixture is ≥ 1.0 % or ≥ 10 % (see 3.8.3.4 and note 5 to table 3.8.2). ~~Mixture that lacks sufficient data, but contains Category 1 ingredient: ≥ 1 but ≤ 10% for some authorities; and /or contains Category 2 ingredient: ≥ 1 to ≤ 10% for some authorities; and ≥ 10% for all authorities.~~
3	1. *For substances and tested mixtures*: (a) (Respiratory tract irritation) Evidence on the substance or mixture of transient irritant effects on respiratory tract in humans~~-~~; or (b) (Narcotic effects) Evidence on the substance or mixture of transient narcotic effects from animal studies and in humans. 2. *If data for the complete mixture are not available,* see bridging principles in 3.8.3.3. 3. *If bridging principles do not apply*, classify in Category 3 if the concentration of at least one ingredient classified as Category 3 specific target organ toxicant in the mixture is ≥ 20% (see 3.8.3.4.5).

A1.3.9 ***Specific target organ ~~systemic~~ toxicity following repeated exposure*** *(See Chapter 3.9 for details)*

Hazard category	Specific target organ ~~systemic~~ toxicity following repeated exposure: Classification criteria
1	1. *For substances and tested mixtures* Reliable evidence on the substance or mixture (including bridging) of an adverse effect on specific organ/systems or systemic toxicity in humans or animals. May use guidance values in Table 3.9.1 as part of weight of evidence evaluation. May be named for specific organ/system. 2. *If data for the complete mixture are not available*, see bridging principles in 3.9.3.3. 3. *If bridging principles do not apply*, classify in Category 1 if the concentration of at least one ingredient classified as Category 1 specific target organ toxicant in the mixture is ≥ 1 % or ≥ 10 %. (See 3.9.3.4 and notes 1 and 2 to table 3.9.3). ~~Mixture that lacks sufficient data, but contains Category 1 ingredient: ≥ 1 to ≤ 10% for some authorities; and ≥ 10% for all authorities.~~
2	1. *For substances and tested mixtures* Evidence on the substance or mixture (including bridging) of an adverse effect on specific organ/systems or systemic toxicity from animal studies or humans considering weight of evidence and guidance values in Table 3.9.2. May be named for specific organ/system. 2. *If data for the complete mixture are not available*, see bridging principles in 3.9.3.3. 3. *If bridging principles do not apply*, classify in Category 2: (i) if the concentration of at least one ingredient classified as Category 1 target organ toxicant in the mixture is ~~ixture that lacks sufficient data, but contains Category 1 ingredient:~~ ≥ 1.0 but ~~≤~~ < 10% ~~for some authorities~~ (see 3.9.3.4 and Note 3 ~~of~~to Table 3.9.3); and/or (ii) if the concentration of at least one ingredient classified~~contains~~ as Category 2 target organ toxicant in the mixture is~~ingredient:~~ ≥ 1.0% or ~~≥~~ ≤10%.(See 3.9.3.4 and notes 4 and 5 to table 3.9.3).

A1.3.10 ***Aspiration hazard*** *(See Chapter 3.10 for details)*

Hazard category	Aspiration hazard: Classification criteria
1	1. *For substances and tested mixtures* (a) Practical experience from reliable and good quality human evidence showing human aspiration toxicity including chemical pneumonia, varying degree of pulmonary injury or death following aspiration; (b) Hydrocarbons with a kinematic viscosity of 20.5 mm^2/s or less, measured at 40 °C; 2. *If data for the complete~~a~~ mixture are not available,* use bridging principles in 3.10.3.2. 3. *If bridging principles do not apply,* classify ~~under aspiration hazard~~ in Category 1: (~~a~~i) if the concentration ~~Mixtures containing 10% or more~~ of ~~a~~at least one ~~substance~~ ingredient ~~or substances~~ classified in Category 1 and having a kinematic viscosity ≤~~of~~ 20.5 mm^2/s ~~or less when measured~~ at 40 °C, in the mixture is > 10%; or (~~b~~ii) for ~~M~~mixtures which separate into two or more distinct layers: If in one of the layers, the concentration of at least one of the ingredients classified in Category 1 ~~aspiration toxicity hazard~~ and ha~~s~~ving a kinematic viscosity ≤~~of~~ 20.5 mm^2/s ~~or less, measured~~ at 40 °C, is > 10%. ~~, one of which contains 10 % or more of a substance or substances~~
2	1. *For substances and tested mixtures* Substances other than those classified in Category 1 which, on the basis of animal studies and expert judgment are presumed to cause human aspiration toxicity and have a kinematic viscosity of 14 mm^2/s or less, measured at 40 °C. 2. *If data for the complete~~a~~ mixture are not available,* use bridging principles in 3.10.3.2. 3. *If bridging principles do not apply,* classify under ~~aspiration hazard~~ Category 2: (a) if the concentration ~~Mixtures containing 10% or more~~ of at least one ingredient~~a substance or substances~~ classified in Category 2 and having a kinematic viscosity ≤~~of~~ 14 mm^2/s ~~or less, measured~~ at 40 °C; or (b) for ~~M~~mixtures which separate into two or more distinct layers: If in one of the layers, ~~,~~ the concentration of at least one of the ingredients~~one of which contains 10% or more of a substance or substances~~ classified in Category 2 ~~aspiration toxicity hazard~~ and ha~~s~~ving a kinematic viscosity ≤~~of~~ 14 mm^2/s ~~or less, measured~~ at 40 °C, is ≥ 10%.

A1.4 Classification summary tables for environmental hazards

A1.4.1 *Hazards to the aquatic environment*

A1.4.1.1 *Acute hazards to the aquatic environment* *(See Chapter 4.1 for details)*

Hazard category	Acute hazards to the aquatic environment: Classification criteria
1	1. *For substances and tested mixtures:* $L(E)C_{50} \leq 1mg/l$ where $L(E)C_{50}$ is either fish 96hr LC_{50}, crustacea 48hr EC LC_{50} or aquatic plant 72 or 96hr ErC_{50}. 2. *If data for the complete~~a~~ mixture are not available,* use bridging principles ~~(see~~ in 4.1.3.4~~)~~. 3. *If bridging principles do not apply,* (a) For mixtures with classified ingredients: Apply the summation method (see 4.1.3.5.5) and classify as Acute 1 if: ~~The summation method (see 4.1.3.5.5) reveals:~~ ~~[~~(Concentration of ingredients classified as Acute 1)~~]~~ × M is > 25% where M is a multiplying factor (see 4.1.3.5.5.5). (b) For mixtures with tested ingredients: Apply the ~~The~~ additivity formula (see 4.1.3.5.2 and 4.1.3.5.3) and classify as Acute 1 if: ~~reveals:~~ $L(E)C_{50} \leq 1mg/l$. (c) For mixtures with both classified and tested ingredients: Apply ~~The~~the combined additivity formula and summation method (see 4.1.3.5.2 to 4.1.3.5.5.3) and classify as Acute 1 if: ~~reveal:~~ ~~[~~(Concentration of ingredients classified as Acute 1) × M is > 25%. 4. *For mixtures with no usable information for one or more relevant ingredients,* classify using the available information and add the statement: "× percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".

Continued on next page

Hazard category	Acute hazards to the aquatic environment: Classification criteria *(cont"d)*
2	1. *For substances and tested mixtures:* 1mg/l < L(E)C_{50} ≤ 10mg/l where L(E)C_{50} is either fish 96hr LC_{50}, crustacea 48hr EC LC_{50} or aquatic plant 72 or 96hr ErC_{50}. 2. *If data for the complete~~a~~ mixture are not available,* use bridging principles ~~(see~~ in 4.1.3.4~~)~~. 3. *If bridging principles do not apply,* (a) For mixtures with classified ingredients: Apply the ~~The~~ summation method (see 4.1.3.5.5) and classify in Acute 2 if: ~~reveals~~: [M × 10 × (~~C~~concentration of ingredients classified as Acute 1~~)~~) ~~× M × 10~~] + (~~C~~concentration of ingredients classified as Acute 2~~)~~) is > 25% where M is a multiplying factor (see 4.1.3.5.5.5). (b) For mixtures with tested ingredients: Apply the~~The~~ additivity formula (see 4.1.3.5.2 and 4.1.3.5.3) and classify in Acute 2 if:~~reveals:~~ 1mg/l < L(E)C_{50} ≤ 10 mg/l. (c) For mixtures with both classified and tested ingredients: Apply the~~The~~ combined additivity formula and summation method (see 4.1.3.5.2 to 4.1.3.5.5.3) and classify in Acute 2 if: ~~reveal~~: [M × 10 × (c~~C~~oncentration of ingredients classified as Acute 1)~~]~~ ~~× M× 10~~] + ~~[~~(~~C~~concentration of ingredients classified as Acute 2~~]~~) is > 25%. 4. *For mixtures with no usable information for one or more relevant ingredients,* classify using the available information and add the statement: "× percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".

Continued on next page

Hazard category	Acute hazards to the aquatic environment: Classification criteria *(cont"d)*
3	1. *For substances and tested mixtures:* 10mg/l < L(E)C_{50} ≤ 100mg/l where L(E)C_{50} is either fish 96hr LC_{50}, crustacea 48hr EC LC_{50} or aquatic plant 72 or 96hr ErC_{50}. 2. *If data for ~~a~~ the complete mixture are not available,* use bridging principles (see 4.1.3.4). 3. *If bridging principles do not apply,* (~~dada~~) For mixtures with classified ingredients: Apply the ~~The~~ summation method (see 4.1.3.5.5) and classify as Acute 3 if~~reveals~~: [M × 100 × (c~~C~~oncentration of ingredients classified as Acute 1~~]~~ ~~× M ×~~ ~~100~~] + [10 × (c~~C~~oncentration of ingredients classified as Acute 2~~)]~~ ~~× 10~~] + (~~[~~ ~~C~~concentration of ingredients classified as Acute 3~~]~~) is > 25% where M is a multiplying factor (see 4.1.3.5.5.5). (~~ebb~~) For mixtures with tested ingredients: Apply the ~~The~~ additivity formula (see 4.1.3.5.2 and 4.1.3.5.3) and classify as Acute 3 if:~~reveals:~~ 10mg/l < L(E)C_{50} ≤ 100mg/l. (~~fee~~) For mixtures with both classified and tested ingredients: Apply ~~T~~the combined additivity formula and summation method (see 4.1.3.5.2 to 4.1.3.5.5.3) and classify as Acute 3 if:~~reveal~~: ~~[C~~[M × 100 × (concentration of ingredients classified as Acute 1)]) ~~× M ×~~ ~~100~~ + [10 × (~~C~~concentration of ingredients classified as Acute 2)] ~~× 10~~ + (~~[C~~concentration of ingredients classified as Acute 3~~]~~) is > 25%. 4. *For mixtures with no usable information for one or more relevant ingredients,* classify using the available information and add the statement: "× percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".

A1.4.1.2 ***Chronic hazards to the aquatic environment*** *(See Chapter 4.1 for details)*

Hazard category	Chronic hazards to the aquatic environment : Classification criteria
1	1. *For substances and tested mixtures:* - $L(E)C_{50} \leq 1mg/l$; and - Lack the potential to rapidly biodegrade and/or have the potential to bioaccumulate (BCF ≥ 500 or if absent log Kow ≥ 4) where $L(E)C_{50}$ is either fish 96hr LC_{50}, crustacea 48hr EC LC_{50} or aquatic plant 72 or 96hr ErC_{50}. 2. If data ~~*E*~~*for the complete mixture*~~*s*~~ *, are not available,* use bridging principles (see 4.1.3.4). 3. *If bridging principles do not apply,* classify as Chronic 1 if: ~~[~~(~~C~~concentration of ingredients classified as Chronic 1~~]~~) × M is > 25% where M is a multiplying factor (see 4.1.3.5.5.5). 4. *For mixtures with no usable information for one or more relevant ingredients,* classify using the available information and add the statement: "×percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".
2	1. *For substances and tested mixtures*: - 1 mg/l < $L(E)C_{50} \leq 10$ mg/l; and - Lack the potential to rapidly biodegrade and/or have the potential to bioaccumulate (BCF ≥ 500 or if absent log Kow ≥ 4); unless - Chronic NOECs > 1mg/l. 2. If data ~~*E*~~*for the complete mixture*~~*s*~~, are not available, use bridging (see 4.1.3.4). 3. *If bridging principles do not apply,* classify as Chronic 2 if: [M × 10 × (~~C~~concentration of ingredients classified as Chronic 1)] ~~× M × 10~~ + [~~C~~concentration of ingredients classified as Chronic 2~~]~~) is > 25% where M is a multiplying factor (see 4.1.3.5.5.5). 4. *For mixtures with no usable information for one or more relevant ingredients*, classify using the available information and add the statement: "× percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".

Continued on next page

Hazard category	Chronic hazards to the aquatic environment: Classification criteria *(cont"d)*
3	1. *For substances and tested mixtures:* - 10 mg/l < L(E)C_{50} ≤ 100 mg/l; and - Lack the potential to rapidly biodegrade and/or have the potential to bioaccumulate (BCF ≥ 500 or if absent log Kow ≥ 4); unless - Chronic NOECs > 1mg/l. 2. *If data For the complete mixtures, are not available* use bridging principles (see 4.1.3.4). 3. *If bridging principles do not apply,* classify as Chronic 3 if: [M × 100 × (Cconcentration of ingredients classified as Chronic 1)] × M × 100 + [10 × (Cconcentration of ingredients classified as Chronic 2)] × 10 + [(Cconcentration of ingredients classified as Chronic 3)] is > 25% where M is a multiplying factor (see 4.1.3.5.5.5). 4. *For mixtures with no usable information for one or more relevant ingredients,* classify using the available information and add the statement: "× percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".
4	1. *For substances and tested mixtures:* - poorly soluble and no acute toxicity is observed up the water solubility - Lack the potential to rapidly biodegrade and have the potential to bioaccumulate (BCF ≥ 500 or if absent log Kow ≥ 4); unless - Chronic NOECs > 1mg/l. 2. if data For the complete *mixtures are not available,* use bridging principles (see 4.1.3.4). 3. *If bridging principles do not apply,* classify as Chronic 4 if: the Ssum of the concentrations of components the ingredients classified as Chronic 1, 2, 3 or 4 is > 25%. 4. *For mixtures with no usable information for one or more relevant ingredients,* classify using the available information and add the statement: "× percent of the mixture consists of component(s) of unknown hazards to the aquatic environment".

ANNEX 2

LABEL ELEMENTS

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Annex 2

SECTION 1

GHS AND TDG PICTOGRAMS

A2.1.1 Introduction

A2.1.1.1 ***Pictogram*** means a graphical composition that may include a symbol plus other graphic elements, such as a border, background pattern or colour that is intended to convey specific information.

Symbol means a graphical element intended to succinctly convey information.

A2.1.1.2 Symbols that are used in pictograms are described in 1.4.10.3.

A2.1.1.3 The pictograms for each hazard class and hazard category of the GHS shall conform, in terms of colour, symbols and their general format, to the specimens shown. Pictograms shall be in the form of a square set at an angle of 45° (diamond shaped).

A2.1.1.4 The provisions applicable to pictograms in this section and paragraph 1.4.10.4 and its sub-paragraphs shall apply.

A2.1.1.5 Where a *UN Model Regulations on the Transport of Dangerous Goods* pictogram appears on a label, a GHS pictogram for the same hazard shall not appear.

A2.1.1.6 Pictograms prescribed by the GHS shall have a black symbol on a white background with a red frame[1] sufficiently wide to be clearly visible.

A2.1.1.7 TDG (Transport of Dangerous Goods) pictograms as prescribed by the *UN Model Regulations on the Transport of Dangerous Goods* shall be used for transport[2]. Where pictograms are used to comply with the requirements of transport regulations, the provisions of the transport regulations shall take precedence.

A2.1.1.8 GHS pictograms shall meet the requirements of A2.1.1.6. The tables in A2.1.2 for GHS pictograms contain 2 columns:

Column (1) An illustration of the pictogram and its reference number;
Column (2) The GHS hazard classes and hazard categories that the pictogram is used for.

A2.1.1.9 TDG pictograms shall be of minimum dimensions of 100 mm by 100 mm, except in the case of gases under pressure or of packages of such dimensions that they can only bear smaller labels. This section provides further information on TDG pictograms relating to the symbols used and their colour(s), background colour(s) and provisions relating to textual content. TDG pictograms shall have a line of the same colour as the symbol, 5 mm inside the edge and running parallel with it. The tables in A2.1.3 for TDG pictograms contain 3 columns:

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[1] *When such a pictogram appears on a label for a package which will not be exported, the competent authority may choose to give suppliers and employers discretion to use a black border.*

[2] *Competent authorities may allow the use of UN Recommendations on the Transport of Dangerous Goods, Model Regulations pictograms in other use settings where the package is not covered by the Model Regulations.*

Column 1 An illustration of the pictogram and its reference number;

Column 2 A description of the colours used for the elements of the pictogram:

Column 3 The GHS hazard classes and hazard categories that the pictogram is used for.

A2.1.2 GHS pictograms

A2.1.2.1 *Physical hazards*

A2.1.2.1.1 Symbol: Exploding bomb

Pictogram (1)	Hazard class and hazard category (2)
GHS01 	Chapter 2.1 Unstable explosives Explosives of Divisions 1.1, 1.2, 1.3, 1.4 Chapter 2.8 Self reactive substances and mixtures, Types A, B Chapter 2.15 Organic peroxides, Types A, B

A2.1.2.1.2 No symbol: Explosives

Pictogram (1)	Hazard class and hazard category (2)
GHS01.5 	Chapter 2.1 Explosives of Division 1.5

Pictogram (1)	Hazard class and hazard category (2)
GHS01.6 	Chapter 2.1 Explosives of Division 1.6

A2.1.2.1.3 Symbol: Flame

Pictogram (1)	Hazard class and hazard category (2)
GHS02 	Chapter 2.2 Flammable gases, hazard category 1 Chapter 2.3 Flammable aerosols, hazard categories, 1, 2 Chapter 2.6 Flammable liquids, hazard categories 1, 2, 3 Chapter 2.7 Flammable solids, hazard categories 1, 2 Chapter 2.8 Self-reactive substances and mixtures, Types B, C, D, E, F Chapter 2.9 Pyrophoric liquids, hazard category 1 Chapter 2.10 Pyrophoric solids, hazard category 1 Chapter 2.11 Self-heating substances and mixtures, hazard categories 1, 2, 3 Chapter 2.12 Substances and mixtures, which in contact with water, emit flammable gases, hazard categories 1, 2, 3 Chapter 2.15 Organic peroxides, Types B, C, D, E, F

A2.1.2.1.4 Symbol: Flame over circle

Pictogram (1)	Hazard class and hazard category (2)
GHS03 	Chapter 2.4 Oxidizing gases, hazard category 1 Chapter 2.13 Oxidizing liquids, hazard categories 1, 2, 3 Chapter 2.14 Oxidizing solids, hazard categories 1, 2, 3

A2.1.2.1.5 Symbol: Gas cylinder

Pictogram (1)	Hazard class and hazard category (2)
GHS04 	Chapter 2.5 Gases under pressure: Compressed gases; Liquefied gases; Refrigerated liquefied gases; Dissolved gases

A2.1.2.1.6 Symbol: Corrosion

Pictogram (1)	Hazard class and hazard category (2)
GHS05 	Chapter 2.16 Corrosive to metals, hazard category 1

A2.1.2.1.7 A GHS pictogram is not required for the following physical hazard classes and hazard categories:

Chapter 2.2: Flammable gases, hazard category 2
Chapter 2.6: Flammable liquids, hazard category 4
Chapter 2.8: Self-reactive substances and mixtures, Type G
Chapter 2.15: Organic peroxides, Type G

A2.1.2.2 ***Health hazards***

A2.1.2.2.1 Symbol: Skull and crossbones

Pictogram (1)	Hazard class and hazard category (2)
GHS06 	Chapter 3.1 Acute toxicity (oral, dermal, inhalation), hazard categories 1, 2, 3

A2.1.2.2.2 Symbol: Corrosion

Pictogram (1)	Hazard class and hazard category (2)
GHS05 	Chapter 3.2 Skin corrosion, hazard categories 1A, 1B, 1C Chapter 3.3 Severe eye damage, hazard category 1

A2.1.2.2.3 Symbol: Exclamation mark

Pictogram (1)	Hazard class and hazard category (2)
GHS07 	Chapter 3.1 Acute toxicity (oral, dermal, inhalation), hazard category 4 Chapter 3.2 Skin irritation, hazard category 2 Chapter 3.3 Eye irritation, hazard category 2A Chapter 3.4 Skin sensitisation, hazard category 1 Chapter 3.8 Specific Target Organ Toxicity – Single exposure, hazard category 3 Respiratory tract irritation Narcotic effects

A2.1.2.2.4 Symbol: Health hazard

Pictogram (1)	Hazard class and hazard category (2)
GHS08 	Chapter 3.4 Respiratory sensitization, hazard category 1 Chapter 3.5 Germ cell mutagenicity, hazard categories 1A, 1B, 2 Chapter 3.6 Carcinogenicity, hazard categories 1A, 1B, 2 Chapter 3.7 Reproductive toxicity, hazard categories 1A, 1B, 2 Chapter 3.8 Specific Target Organ Toxicity – Single exposure, hazard categories 1, 2 Chapter 3.9 Specific Target Organ Toxicity – Repeated exposure, hazard categories 1, 2 Chapter 3.10 Aspiration hazard, hazard categories 1, 2

A2.1.2.2.5 A GHS pictogram is not required for the following health hazard classes and hazard categories:

Chapter 3.1: Acute toxicity (oral, dermal, inhalation), hazard category 5
Chapter 3.2: Skin irritation, hazard category 3
Chapter 3.3: Eye irritation, hazard category 2B
Chapter 3.7: Reproductive toxicity, Effects on or via lactation, additional hazard category

A2.1.2.3 ***Environmental hazards***

A2.1.2.3.1 Symbol: Environment

Pictogram (1)	Hazard class and hazard category (2)
GHS09 	Chapter 4.1 Hazardous to the aquatic environment – Acute toxicity, hazard category 1 – Chronic toxicity, hazard categories 1, 2

A2.1.2.3.2 A GHS pictogram is not required for the following environmental hazard classes and hazard categories:

Chapter 4.1: Hazardous to the aquatic environment – Acute toxicity, hazard categories 2, 3

Chapter 4.1: Hazardous to the aquatic environment – Chronic toxicity, hazard categories 3, 4

A2.1.3 TDG pictograms

A2.1.3.1 *Physical hazards*

A2.1.3.1.1 Symbol: Exploding bomb

(a)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1  	Symbol colour: black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.8 Self reactive substances and mixtures, Type B Chapter 2.15 Organic peroxides, Type B
Notes on use		
Under the *UN Recommendations on the Transport of Dangerous Goods, Model Regulations,* special provision 181 may apply (Exemption of explosive pictogram with competent authority approval. See Chapter 3.3 of *UN Model Regulations* for more details).		

(b)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1.1  	Symbol colour: black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.1 Explosives of Division 1.1 Chapter 2.8 Self Reactive substances and mixtures, Type A Chapter 2.15 Organic Peroxides, Type A
Notes on use		
Division to be left blank if explosive is the subsidiary risk. Place for Compatibility Group (*), to be left blank if explosive is the subsidiary risk.		

(c)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1.2  	Symbol colour: black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.1 Explosives of Division 1.2 Chapter 2.8 Self reactive substances and mixtures, Type A Chapter 2.15 Organic peroxides, Type A
Notes on use		
Division to be left blank if explosive is the subsidiary risk. Place for Compatibility Group (*), to be left blank if explosive is the subsidiary risk.		

(d)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1.3  	Symbol colour: black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.1 Explosives of Division 1.3 Chapter 2.8 Self reactive substances and mixtures, Type A Chapter 2.15 Organic peroxides, Type A
Notes on use		
Division to be left blank if explosive is the subsidiary risk. Place for compatibility group (*), to be left blank if explosive is the subsidiary risk.		

A2.1.3.1.2 No symbol: Explosives

(a)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1.4  	Figures: "1.4": black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.1 Explosives of Division 1.4
Notes on use		
Division to be left blank if explosive is the subsidiary risk. When used as a transport pictogram, the numerals 1.4 shall be about 30 mm in height and be about 5 mm thick (for a pictogram measuring 100 mm ×100 mm)		

(b)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1.5  	Figures: "1.5": black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.1 Explosives of Division 1.5
Notes on use		
Division to be left blank if explosive is the subsidiary risk. When used as a transport pictogram, the numerals 1.5 shall be about 30mm in height and be about 5 mm thick (for a pictogram measuring 100 mm × 100 mm)		

(c)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG1.6  	Figures: "1.6": black; Background colour: orange; Figure in bottom corner: "1": black;	Chapter 2.1 Explosive articles of Division 1.6
Notes on use		
Division to be left blank if explosive is the subsidiary risk. When used as a transport pictogram, the numerals 1.6 shall be about 30 mm in height and be about 5 mm thick (for a pictogram measuring 100 mm × 100 mm)		

A2.1.3.1.3 Symbol: Flame

(a)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG2.1   	Symbol colour: black or white; Background colour: red; Figure in bottom corner: "2": black or white;	Chapter 2.2 Flammable gases, hazard category 1 Chapter 2.3 Flammable aerosols, hazard categories 1, 2

(b)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG3  	Symbol colour: black or white; Background colour: red; Figure in bottom corner: "3": black or white;	Chapter 2.6 Flammable liquids, hazard categories 1, 2, 3
Notes on use		
Subsidiary risk pictogram TDG3 not required if pictogram TDG5.2 is assigned		

(c)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG4.1  	Symbol colour: black; Background colour: white with seven vertical red stripes; Figure in bottom corner: "4": black;	Chapter 2.7 Flammable solids, hazard categories 1, 2 Chapter 2.8 Self-reactive substances and mixtures, Types B, C, D, E, F
Notes on use		
Subsidiary risk pictogram TDG4.1 not required if pictogram TDG4.2 is assigned.		

(d)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG4.2  	Symbol colour: black; Background colour: upper half white; lower half red; Figure in bottom corner: "4": black;	Chapter 2.9 Pyrophoric liquids, hazard category 1 Chapter 2.10 Pyrophoric solids, hazard category 1 Chapter 2.11 Self-heating substances and mixtures, hazard categories 1, 2
Notes on use		
Subsidiary risk pictogram TDG4.1 not required if pictogram TDG4.2 is assigned.		

(e)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG4.3   	Symbol colour: black or white; Background colour: blue; Figure in bottom corner: "4": black or white;	Chapter 2.12 Substances and mixtures, which in contact with water, emit flammable gases, hazard categories 1, 2, 3

(f)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG5.2  	Symbol colour: black or white; Background colour: upper half red; lower half yellow Figure in bottom corner: "5.2": black or white;	Chapter 2.15 Organic peroxides, Types B, C, D, E, F
Notes on use		
Subsidiary risk pictogram TDG3 not required if pictogram TDG5.2 is assigned		

A2.1.3.1.4 Symbol: Flame over circle

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG5.1  	Symbol colour: black; Background colour: yellow Figure in bottom corner: "5.1": black;	Chapter 2.4 Oxidizing gases, hazard category 1 Chapter 2.13 Oxidizing liquids, hazard categories 1, 2, 3 Chapter 2.14 Oxidizing solids, hazard categories 1, 2, 3

A2.1.3.1.5 Symbol: Gas cylinder

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG2.2   	Symbol colour: black or white; Background colour: green Figure in bottom corner: "2": black or white;	Chapter 2.5 Gases under pressure: Compressed gases; Liquefied gases; Refrigerated liquefied gases; Dissolved gases
Notes on use		
This Pictogram is not required for toxic or flammable gases in the *UN RTDG Model Regulations*.		

A2.1.3.1.6 Symbol: Corrosion

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG8  	Symbol colour: black; Background colour: upper half white; lower half black with white border; Figure in bottom corner: "8": black;	Chapter 2.16 Corrosive to metals, hazard category 1
Notes on use		
Subsidiary risk pictogram TDG6.1 not required if the toxicity arises solely from the destructive effect on tissue.		

A2.1.3.1.7 A TDG pictogram is not required under the *UN RTDG Model Regulations* for the following physical hazard classes and/or hazard categories;

Chapter 2.2: Flammable gases, hazard category 2
Chapter 2.6: Flammable liquids, hazard category 4
Chapter 2.8: Self-reactive substances and mixtures, Type G
Chapter 2.15: Organic peroxides, Type G

A2.1.3.2 *Health hazards*

A2.1.3.2.1 Symbol: Skull and crossbones

(a)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG6.1  	Symbol colour: black; Background colour: white; Figure in bottom corner: "6": black;	Chapter 3.1 Acute toxicity (oral), hazard categories 1, 2, 3 Acute toxicity (dermal), hazard categories 1, 2, 3 Acute toxicity (inhalation: vapours, dusts and mists), hazard categories 1, 2, 3

(b)

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG2.3  	Symbol colour: black; Background colour: white; Figure in bottom corner: "2": black;	Chapter 3.1 Acute toxicity (inhalation: gases), hazard categories 1, 2, 3

A2.1.3.2.2 Symbol: Corrosion

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG8  	Symbol colour: black; Background colour: upper half white; lower half black with white border; Figure in bottom corner: "8": black;	Chapter 3.2 Skin corrosion, hazard categories 1A, 1B, 1C Chapter 3.3[a] Severe eye damage, hazard category 1
Notes on use		
Subsidiary risk pictogram TDG6.1 not required if the toxicity arises solely from the destructive effect on tissue.		

[a] *Not applicable for the purposes of the Recommendations on the Transport of Dangerous Goods, Model Regulations.*

A2.1.3.2.3 The following health hazard classes and hazard categories are not applicable for the *UN RTDG Model Regulations:*

Chapter 3.1: Acute toxicity (oral), hazard categories 4, 5
Chapter 3.1: Acute toxicity (dermal), hazard categories 4, 5
Chapter 3.1: Acute toxicity (inhalation – vapours, dusts and mists, gases), hazard categories 4, 5
Chapter 3.2: Skin irritation, hazard categories 2, 3
Chapter 3.3: Serious eye damage/eye irritation, hazard categories 1, 2A, 2B
Chapter 3.4: Respiratory sensitization, hazard category 1
Skin sensitization, hazard category 1
Chapter 3.5: Germ cell mutagenicity, hazard categories 1A, 1B, 2
Chapter 3.6: Carcinogenicity, hazard categories 1A, 1B, 2
Chapter 3.7: Reproductive toxicity, hazard categories 1A, 1B, 2
Effects on or via lactation, additional hazard category
Chapter 3.8: Specific Target Organ Toxicity – Single exposure, hazard categories 1, 2
Respiratory Tract Irritation, hazard category 3
Narcosis, hazard category 3
Chapter 3.9: Specific Target Organ Toxicity – Repeated exposure, hazard categories 1, 2
Chapter 3.10: Aspiration hazard, hazard categories 1, 2

A2.1.3.3 Environmental hazards

A2.1.3.3.1 Symbol: Environment

Pictogram (1)	Description (2)	Hazard class and hazard category (3)
TDG-ENV 	Symbol colour: black; Background colour: white; Border: black;	Chapter 4.1 Hazardous to the aquatic environment: Acute Toxicity, hazard category 1 Chronic Toxicity, hazard categories 1, 2
Notes on use		
For Category 1, (Acute) and Categories 1 and 2 (Chronic) under the *UN Recommendations on the Transport of Dangerous Goods, Model Regulations* the pictogram is not required if the substance presents any other hazards covered by *UN Model Regulations*. If no other hazard is presented (i.e. for UN Nos. 3077 and 3082 in Class 9 of the *UN Model Regulations)*, this pictogram is required as a mark in addition to the *UN Model Regulations* Class 9 label.		

A2.1.3.3.2 The following environmental hazard classes and hazard categories are not applicable for the *UN RTDG Model Regulations:*

Chapter 4.1: Hazardous to the aquatic environment: Acute toxicity, hazard categories 2, 3

Chapter 4.1: Hazardous to the aquatic environment: Chronic toxicity, hazard categories 3, 4

Annex 2

SECTION 2

CODIFICATION OF HAZARD STATEMENTS

A2.2.1 Introduction

A2.2.1.1 ***Hazard statement*** means a statement assigned to a hazard class and category that describes the nature of the hazards of a hazardous product, including, where appropriate, the degree of hazard.

A2.2.1.2 This section contains the recommended codes assigned to each of the hazard statements applicable to the hazard categories under the GHS.

A2.2.1.3 The hazard statement codes are intended to be used for reference purposes. They are not part of the hazard statement text and should not be used to replace it.

A2.2.2 Codification of hazard statements

A2.2.2.1 Hazard statements are assigned a unique alphanumerical code which consists of one letter and three numbers, as follows:

(a) the letter "H" (for "hazard statement");

(b) a number designating the type of hazard to which the hazard statement is assigned according to the numbering of the different parts of the GHS, as follows:

- "2" for physical hazards;
- "3" for health hazards:
- "4" for environmental hazards;

(c) two numbers corresponding to the sequential numbering of hazards arising from the intrinsic properties of the substance or mixture, such as explosivity (codes from 200 to 210), flammability (codes from 220 to 230), etc.

A2.2.2.2 The codes to be used for designating hazard statements are listed, in numerical order, in Table A2.2.1 for physical hazards, Table A2.2.2 for health hazards and Table A2.2.3 for environmental hazards. Each table is divided into 4 columns containing the following information:

Column (1) The hazard statement code;

Column (2) The hazard statement text;

The text in bold should appear on the label, except as otherwise specified. The information in italics should also appear as part of the hazard statement when the information is known.

For example: "**causes damages to organs** *(or state all organs affected, if known)* **through prolonged or repeated exposure** *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)".*

Column (3) Hazard class, with a reference to the chapter of the GHS where information about the hazard class may be found.

Column (4) The hazard category or categories within a hazard class for which the use of a hazard statement is applicable.

Table A2.2.1 Hazard statement codes for physical hazards

Code (1)	Physical hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H200	**Unstable explosive**	Explosives (chapter 2.1)	Unstable Explosive
H201	**Explosive; mass explosion hazard**	Explosives (chapter 2.1)	Division 1.1
H202	**Explosive; severe projection hazard**	Explosives (chapter 2.1)	Division 1.2
H203	**Explosive; fire, blast or projection hazard**	Explosives (chapter 2.1)	Division 1.3
H204	**Fire or projection hazard**	Explosives (chapter 2.1)	Division 1.4
H205	**May mass explode in fire**	Explosives (chapter 2.1)	Division 1.5
H220	**Extremely flammable gas**	Flammable gases (chapter 2.2)	1
H221	**Flammable gas**	Flammable gases (chapter 2.2)	2
H222	**Extremely flammable aerosol**	Flammable aerosols (chapter 2.3)	1
H223	**Flammable aerosol**	Flammable aerosols (chapter 2.3)	2
H224	**Extremely flammable liquid and vapour**	Flammable liquids (chapter 2.6)	1
H225	**Highly flammable liquid and vapour**	Flammable liquids (chapter 2.6)	2
H226	**Flammable liquid and vapour**	Flammable liquids (chapter 2.6)	3
H227	**Combustible liquid**	Flammable liquids (chapter 2.6)	4
H228	**Flammable solid**	Flammable solids (chapter 2.7)	1, 2
H240	**Heating may cause an explosion**	Self-reactive substances and mixtures (chapter 2.8); and Organic peroxides (chapter 2.15)	Type A

Code (1)	Physical hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H241	**Heating may cause a fire or explosion**	Self-reactive substances and mixtures (chapter 2.8); and Organic peroxides (chapter 2.15)	Type B
H242	**Heating may cause a fire**	Self-reactive substances and mixtures (chapter 2.8); and Organic peroxides (chapter 2.15)	Types C, D, E, F
H250	**Catches fire spontaneously if exposed to air**	Pyrophoric liquids (chapter 2.9); Pyrophoric Solids (chapter 2.10)	1
H251	**Self-heating; may catch fire**	Self-heating substances and mixtures (chapter 2.11)	1
H252	**Self-heating in large quantities; may catch fire**	Self-heating substances and mixtures (chapter 2.11)	2
H260	**In contact with water releases flammable gases which may ignite spontaneously**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1
H261	**In contact with water releases flammable gas**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	2, 3
H270	**May cause or intensify fire; oxidizer**	Oxidizing gases (chapter 2.4)	1
H271	**May cause fire or explosion; strong oxidizer**	Oxidizing liquids (chapter 2.13); Oxidizing solids (chapter 2.14)	1
H272	**May intensify fire; oxidizer**	Oxidizing liquids (chapter 2.13); Oxidizing solids (chapter 2.14)	2, 3
H280	**Contains gas under pressure; may explode if heated**	Gases under pressure (chapter 2.5)	Compressed gas Liquefied gas Dissolved gas
H281	**Contains refrigerated gas; may cause cryogenic burns or injury**	Gases under pressure (chapter 2.5)	Refrigerated liquefied gas
H290	**May be corrosive to metals**	Corrosive to metals (Chapter 2.16)	1

Table A2.2.2 Hazard statement codes for health hazards

Code (1)	Health hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H300	**Fatal if swallowed**	Acute toxicity – oral (chapter 3.1)	1, 2
H301	**Toxic if swallowed**	Acute toxicity – oral (chapter 3.1)	3
H302	**Harmful if swallowed**	Acute toxicity – oral (chapter 3.1)	4
H303	**May be harmful if swallowed**	Acute toxicity – oral (chapter 3.1)	5
H304	**May be fatal if swallowed and enters airways**	Aspiration hazard (chapter 3.10)	1
H305	**May be harmful if swallowed and enters airways**	Aspiration hazard (chapter 3.10)	2
H310	**Fatal in contact with skin**	Acute toxicity – dermal (chapter 3.1)	1, 2
H311	**Toxic in contact with skin**	Acute toxicity – dermal (chapter 3.1)	3
H312	**Harmful in contact with skin**	Acute toxicity – dermal (chapter 3.1)	4
H313	**May be harmful in contact with skin**	Acute toxicity – dermal (chapter 3.1)	5
H314	**Causes severe skin burns and eye damage**	Skin corrosion/irritation (chapter 3.2)	1A, 1B, 1C
H315	**Causes skin irritation**	Skin corrosion/irritation (chapter 3.2)	2
H316	**Causes mild skin irritation**	Skin corrosion/irritation (chapter 3.2)	3
H317	**May cause an allergic skin reaction**	Skin sensitisation (chapter 3.4)	1
H318	**Causes serious eye damage**	Serious eye damage/eye irritation (chapter 3.3)	1
H319	**Causes serious eye irritation**	Serious eye damage/eye irritation (chapter 3.3)	2A
H320	**Causes eye irritation**	Serious eye damage/eye irritation (chapter 3.3)	2B
H330	**Fatal if inhaled**	Acute toxicity – inhalation (chapter 3.1)	1, 2
H331	**Toxic if inhaled**	Acute toxicity – inhalation (chapter 3.1)	3

Code (1)	Health hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H332	**Harmful if inhaled**	Acute toxicity – inhalation (chapter 3.1)	4
H333	**May be harmful if inhaled**	Acute toxicity – inhalation (chapter 3.1)	5
H334	**May cause allergy or asthma symptoms or breathing difficulties if inhaled**	Respiratory sensitisation (chapter 3.4)	1
H335	**May cause respiratory irritation**	Specific target organ toxicity – single exposure; Respiratory tract Irritation (chapter 3.8);	3
H336	**May cause drowsiness or dizziness**	Specific target organ toxicity – single exposure; Narcosis (chapter 3.8)	3
H340	**May cause genetic defects** (*state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Germ cell mutagenicity (chapter 3.5)	1A, 1B
H341	**Suspected of causing genetic defects** *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Germ cell mutagenicity (chapter 3.5)	2
H350	**May cause cancer** *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Carcinogenicity (chapter 3.6)	1A, 1B
H351	**Suspected of causing cancer** *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Carcinogenicity (chapter 3.6)	2
H360	**May damage fertility or the unborn child** *(state specific effect if known (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard***)**	Reproductive toxicity (chapter 3.7)	1A, 1B
H361	**Suspected of damaging fertility or the unborn child** *(state specific effect if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Reproductive toxicity (chapter 3.7)	2

Code (1)	**Health hazard statements (2)**	**Hazard class (GHS chapter) (3)**	**Hazard category (4)**
H362	**May cause harm to breast-fed children**	Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category
H370	**Causes damage to organs** *(or state all organs affected, if known) (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Specific target organ toxicity – single exposure (chapter 3.8)	1
H371	**May cause damage to organs** *(or state all organs affected, if known)(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Specific target organ toxicity – single exposure (chapter 3.8)	2
H372	**Causes damage to organs** *(or state all organs affected, if known)* **through prolonged or repeated exposure** *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Specific target organ toxicity – repeated exposure (chapter 3.9)	1
H373	**May cause damage to organs** *(or state all organs affected, if known)* **through prolonged or repeated exposure** *(state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)*	Specific target organ toxicity – repeated exposure (chapter 3.9)	2

Table A2.2.3 Hazard statement codes for environmental hazards

Code (1)	Environmental hazard statements (2)	Hazard class (GHS chapter) (3)	Hazard category (4)
H400	**Very toxic to aquatic life**	Hazardous to the aquatic environment – acute toxicity (chapter 4.1)	1
H401	**Toxic to aquatic life**	Hazardous to the aquatic environment – acute toxicity (chapter 4.1)	2
H402	**Harmful to aquatic life**	Hazardous to the aquatic environment – acute toxicity (chapter 4.1)	3
H410	**Very toxic to aquatic life with long lasting effects**	Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	1
H411	**Toxic to aquatic life with long lasting effects**	Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	2
H412	**Harmful to aquatic life with long lasting effects**	Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	3
H413	**May cause long lasting harmful effects to aquatic life**	Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	4

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Annex 2

SECTION 3

CODIFICATION AND USE OF PRECAUTIONARY STATEMENTS

A2.3.1 Introduction

A2.3.1.1 A **Precautionary statement** is a phrase (and/or pictogram) which describes recommended measures that should be taken to minimize or prevent adverse effects resulting from exposures to a hazardous product, or improper storage or handling of a hazardous product (para 1.4.10.5.2(c)).

A2.3.1.2 Precautionary statements have not yet been fully harmonized[1]. This section provides recommendations and guidance on the use and codification of precautionary statements consistent with the GHS, including advice on the selection of appropriate statements for each GHS hazard class and category.

A2.3.1.3 The starting point for assigning precautionary statements is the hazard classification of the chemical product. The system of classifying hazards in the GHS is based on the intrinsic properties of the chemicals involved (see 1.3.2.2.1). In some systems, however, labelling may not be required for chronic hazards on consumer product labels, if information shows that the respective risks can be excluded under conditions of normal handling, normal use or foreseeable misuse (see Annex 5). If certain hazard statements are not required then the corresponding precautionary statements are also not necessary (see A5.1.1).

A2.3.1.4 The guidance for assigning the precautionary statements in this section has been developed to provide the essential minimum precautionary statements linking them with relevant GHS hazard classification criteria and type of hazard. Existing precautionary statements have been used to the maximum extent as the basis for the development of this section. These existing systems have included the IPCS International Chemical Safety Card (ICSC) Compilers Guide, the American National Standards (ANSI Z129.1), the EU classification and labelling directives, the Emergency Response Guidebook (ERG 2004), and U.S. Environmental Protection Agency Pesticide Label Review Manual.

A2.3.1.5 The goal of this section is to promote a more consistent use of precautionary statements. Their use will reinforce safe handling procedures and will enable the key concepts and approaches to be emphasized in training and education activities, while their codification will facilitate their translation and computerization.

A2.3.1.6 This section should be seen as a living document and therefore subject to further refinement and development over time. The basic concepts of this section and the philosophy given below will remain.

A2.3.1.7 For the purposes of this section, there are five types of precautionary statements: **general, prevention**, **response** (in case of accidental spillage or exposure, emergency response and first aid)**, storage** and **disposal.**

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[1] *See 1.4.6.2. Additional work to achieve greater standardization in this area may be undertaken in the future, once countries have gained greater experience with the system.*

A2.3.2 Codification of precautionary statements

A2.3.2.1 Precautionary statements are assigned a unique alphanumerical code which consists of one letter and three numbers as follows:

(a) a letter "P" (for "precautionary statement")

(b) one number designating the type of precautionary statement as follows:

- "1" for general precautionary statements;
- "2" for prevention precautionary statements;
- "3" for response precautionary statements;
- "4" for storage precautionary statements;
- "5" for disposal precautionary statements;

(c) two numbers (corresponding to the sequential numbering of precautionary statements).

A2.3.2.2 The precautionary statement codes are intended to be used for reference purposes. They are not part of the precautionary statement text and should not be used to replace it.

A2.3.2.3 The recommended codes to be used for designating precautionary statements are listed, in numerical order, in Table A2.3.1 for general precautionary statements, Table A2.3.2 for prevention precautionary statements, Table A2.3.3 for response precautionary statements, Table A2.3.4 for storage precautionary statements and Table A2.3.5 for disposal precautionary statements.

A2.3.3 Structure of the precautionary statement codification tables

A2.3.3.1 Each table is divided into 5 columns containing the following information:

Column (1) The precautionary statement code;

Column (2) The precautionary statement text;

Column (3) The hazard class and the route of exposure, where relevant, for which the use of a precautionary statement is recommended together with a reference to the chapter of the GHS where information about the hazard class may be found.

Column (4) The hazard category or categories within a hazard class for which the use of a precautionary statement is applicable.

Column (5) Where applicable, conditions relating to the use of a precautionary statement.

A2.3.3.2 The tables show the core part of the precautionary statements in bold print in column (2). This is the text, except as otherwise specified, that should appear on the label. However it is not necessary to insist on identical sets of words in all situations. Derogations from the recommended

labelling statements are at the discretion of competent authorities. In all cases, clear plain language is essential to convey information on precautionary behaviour.

A2.3.3.3 When a backslash or diagonal mark [/] appears in a precautionary statement text in column (2), it indicates that a choice has to be made between the phrases they separate. For example in P280 "**Wear protective gloves/protective clothing/eye protection/face protection**" could read "**Wear eye protection**". In such cases, the manufacturer or supplier can choose, or the competent authorities may prescribe the most appropriate phrase(s).

A2.3.3.4 When three full stops [**…**] appears in a precautionary statement text in column (2), they indicate that all applicable conditions are not listed. For example in P241 "**Use explosion-proof electrical/ventilating/lighting/.../equipment.”**, the use of "**...**" indicates that other equipment may need to be specified. Further details of the information to be provided may be found in column (5). In such cases the manufacturer or supplier can choose, or the competent authorities may prescribe the other conditions to be specified.

A2.3.3.5 In cases where additional information is required or information has to be specified, this is indicated by a relevant entry in column (5) in plain text.

A2.3.3.6 When *text in italics* is used in column (5), this indicates specific conditions applying to the use or allocation of the precautionary statement. This may relate to conditions attaching to either the general use of a precautionary statement or its use for a particular hazard class and/or hazard category. For example, for P241 "**Use explosion-proof electrical/ventilating/lighting/.../equipment**", only applies for flammable solids "*if dust clouds can occur*".

A2.3.3.7 To facilitate translation into the languages of users, precautionary statements have been broken down into individual sentences in the tables in this section. In a number of instances the text that appears on a GHS label requires that these be added back together. This is indicated in this annex by codes conjoined with a plus sign [+]. For example P305 + P351 + P338 indicates that the text to appear on the label is "**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing**". These additive precautionary statements can also be found at the end of each of the precautionary statement tables in this section. Translation of only the single precautionary statements is required, as this will enable the compilation of the additive precautionary statements.

A2.3.4 Allocation of precautionary statements

A2.3.4.1 This section guides the selection of appropriate precautionary statements. It includes elements for all categories of precautionary action. All specific elements relating to particular hazard classes should be used. General elements not linked in particular to a certain hazard class or category should also be used where relevant.

A2.3.4.2 To provide flexibility in the application of precautionary statements, a combination of statements is encouraged to save label space and improve their readability. Combination of phrases can also be useful for different types of hazard where the precautionary behaviour is similar. For example: "Keep away from heat, sparks and open flame and store in a cool well ventilated place".

A2.3.4.3 Precautionary statements should appear on GHS-consistent labels along with the GHS-harmonized hazard communication elements (pictograms, signal words and hazard statements). Additional supplemental information, such as directions for use, may also be provided at the discretion of

the manufacturer/supplier and/or competent authority (see Chapter 1.2 and Chapter 1.4, sub-section 1.4.6.3). For some specific chemicals, supplementary first aid, treatment measures or specific antidotes or cleansing materials may be required. Poisons Centres and/or medical practitioners or specialist advice should be sought in such situations and included on labels.

A2.3.4.4 In the majority of cases, the recommended precautionary statements are independent, e.g. the phrases for explosive hazard do not modify those related to certain health hazards and products that are classified for both hazard classes should bear appropriate precautionary statements for both.

A2.3.4.5 Where a substance or mixture is classified for a number of health hazards, generally the most stringent set of precautionary statements should be selected. This applies mainly for the preventive measures. With respect to phrases concerning "Response", rapid action may be crucial. For example, if a chemical is carcinogenic and acutely toxic then the first aid measures for acute toxicity will take precedence over those for longer term effects. In addition, medical attention to delayed health effects may be required in cases of incidental exposure, even if not associated with immediate symptoms of intoxication.

A2.3.4.6 To protect people with different reading abilities, it might be useful to include both precautionary pictograms and precautionary statements in order to convey information in more than one way (see 1.4.4.1 (a)). It should be noted, however, that the protective effect of pictograms is limited and the examples (see A2.4.1) do not cover all precautionary aspects to be addressed. While pictograms can be useful, they can be misinterpreted and are not a substitute for training.

A2.3.5 General precautionary measures

A2.3.5.1 General precautionary measures should be adopted for all substances and mixtures which are classified as hazardous to human health or the environment. To this end, the needs of and the information sources available to three groups of users or applicators should be taken into account: the general public, the commercial user and the industrial worker.

A2.3.5.2 The presumed observation of precautionary label information, specific safety guidelines, and the safety data sheet for each product before use are part of the labelling requirements and occupational health and safety procedures.

A2.3.5.3 In order to correctly implement precautionary measures concerning prevention, response, storage and disposal, it is also necessary to have information on the composition of products at hand, so that information shown on the container, label and safety data sheet can be taken into account when asking for further specialist advice.

A2.3.5.4 The following general precautionary statements on the GHS label are appropriate under the given conditions:

General public	GHS label, Supplemental label information	**P102** **P103** **P101**	**Keep out of reach of children.** **Read label before use.** **If medical advice is needed, have product container or label at hand.**
Industrial worker	GHS label, Supplemental label information, Safety Data Sheet, workplace Instructions		*none of the above*

Table A2.3.1 Codification of general precautionary statements

Code (1)	General precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P101	**If medical advice is needed, have product container or label at hand.**			Consumer products
P102	**Keep out of reach of children.**			Consumer products
P103	**Read label before use.**			Consumer products

Table A2.3.2 Codification of prevention precautionary statements

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P201	**Obtain special instructions before use.**	Explosives (chapter 2.1)	Unstable explosive	
		Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
P202	**Do not handle until all safety precautions have been read and understood.**	Explosives (chapter 2.1)	Unstable explosive	
		Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P210	**Keep away from heat/sparks/open flames/hot surfaces. – No smoking.**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	**...** Manufacturer/supplier or the competent authority to specify applicable ignition source(s).
		Flammable gases (chapter 2.2)	1, 2	
		Flammable aerosols (chapter 2.3)	1, 2	
		Flammable liquids (chapter 2.6)	1, 2, 3	
			4	**...** Manufacturer/supplier or the competent authority to specify applicable ignition source(s). *- specify to keep away from flames and hot surfaces.*
		Flammable solids (chapter 2.7)	1, 2	**...** Manufacturer/supplier or the competent authority to specify applicable ignition source(s).
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Pyrophoric liquids (chapter 2.9)	1	
		Pyrophoric solids (chapter 2.10)	1	
		Oxidizing liquids (chapter 2.13)	1, 2, 3	**...** Manufacturer/supplier or the competent authority to specify applicable ignition source(s). *- specify to keep away from heat.*
		Oxidizing solids (chapter 2.14)	1, 2, 3	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	**...** Manufacturer/supplier or the competent authority to specify applicable ignition source(s).
P211	**Do not spray on an open flame or other ignition source.**	Flammable aerosols (chapter 2.3)	1, 2	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P220	**Keep/Store away from clothing/.../combustible materials.**	Oxidizing gases (chapter 2.4)	1	**...** Manufacturer/supplier or the competent authority to specify incompatible materials.
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Oxidizing liquids (chapter 2.13)	1	**...** Manufacturer/supplier or the competent authority to specify incompatible materials. - *specify to keep away from clothing as well as other incompatible materials.*
			2, 3	**...** Manufacturer/supplier or the competent authority to specify incompatible materials.
		Oxidizing solids (chapter 2.14)	1	**...** Manufacturer/supplier or the competent authority to specify incompatible materials. - *specify to keep away from clothing as well as other incompatible materials.*
			2, 3	**...** Manufacturer/supplier or the competent authority to specify incompatible materials.
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
P221	**Take any precaution to avoid mixing with combustibles...**	Oxidizing liquids (chapter 2.13)	1, 2, 3	**...** Manufacturer/supplier or the competent authority to specify incompatible materials.
		Oxidizing solids (chapter 2.14)	1, 2, 3	
P222	**Do not allow contact with air.**	Pyrophoric liquids (chapter 2.9)	1	
		Pyrophoric solids (chapter 2.10)	1	
P223	**Keep away from any possible contact with water, because of violent reaction and possible flash fire.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P230	**Keep wetted with ...**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.5	**...** Manufacturer/supplier or the competent authority to specify appropriate material. - *if drying out increases explosion hazard, except as needed for manufacturing or operating processes (e.g. nitrocellulose).*
P231	**Handle under inert gas.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
P232	**Protect from moisture.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
P233	**Keep container tightly closed.**	Flammable liquids (chapter 2.6)	1, 2, 3	
		Acute toxicity – inhalation (chapter 3.1)	1, 2, 3	- *if product is volatile so as to generate hazardous atmosphere.*
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P234	**Keep only in original container.**	Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
		Substances and mixtures corrosive to metals (chapter 2.16)	1	
P235	**Keep cool.**	Flammable liquids (chapter 2.6)	1, 2, 3, 4	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Self-heating substances and mixtures (chapter 2.11)	1, 2	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P240	**Ground/bond container and receiving equipment.**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	- *if the explosive is electrostatically sensitive.*
		Flammable liquids (chapter 2.6)	1, 2, 3	- *if electrostatically sensitive material is for reloading.* - *if product is volatile so as to generate hazardous atmosphere.*
		Flammable solids (chapter 2.7)	1, 2	- *if electrostatically sensitive material is for reloading.*
P241	**Use explosion-proof electrical/ventilating/lighting/.../ equipment.**	Flammable liquids (chapter 2.6)	1, 2, 3	**…** Manufacturer/supplier or the competent authority to specify other equipment.
		Flammable solids (chapter 2.7)	1, 2	**...** Manufacturer/supplier or the competent authority to specify other equipment. - *if dust clouds can occur.*
P242	**Use only non-sparking tools.**	Flammable liquids (chapter 2.6)	1, 2, 3	
P243	**Take precautionary measures against static discharge.**	Flammable liquids (chapter 2.6)	1, 2, 3	
P244	**Keep reduction valves free from grease and oil.**	Oxidizing gases (chapter 2.4)	1	
P250	**Do not subject to grinding/shock/…/friction.**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	**...** Manufacturer/supplier or the competent authority to specify applicable rough handling.
P251	**Pressurized container: Do not pierce or burn, even after use.**	Flammable aerosols (chapter 2.3)	1, 2	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P260	**Do not breathe dust/fume/gas/mist/vapours/spray.**	Acute toxicity – inhalation (chapter 3.1)	1, 2	Manufacturer/supplier or the competent authority to specify applicable conditions.
		Specific target organ toxicity – single exposure (chapter 3.8)	1, 2	
		Specific target organ toxicity – prolonged or repeated exposure (chapter 3.9)	1, 2	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	- *if inhalable particles of dusts or mists may occur during use.*
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
P261	**Avoid breathing dust/fume/gas/mist/vapours/spray.**	Acute toxicity – inhalation (chapter 3.1)	3, 4	Manufacturer/supplier or the competent authority to specify applicable conditions.
		Respiratory sensitization (chapter 3.4)	1	
		Skin sensitization (chapter 3.4)	1	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P262	**Do not get in eyes, on skin, or on clothing.**	Acute toxicity – dermal (chapter 3.1)	1, 2	
P263	**Avoid contact during pregnancy/while nursing.**	Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
P264	**Wash ... thoroughly after handling.**	Acute toxicity – oral (chapter 3.1)	1, 2, 3, 4	**...** Manufacturer/supplier or the competent authority to specify parts of the body to be washed after handling.
		Acute toxicity – dermal (chapter 3.1)	1, 2	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Skin irritation (chapter 3.2)	2	
		Eye irritation (chapter 3.3)	2A, 2B	
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
		Specific target organ toxicity – single exposure (chapter 3.8)	1, 2	
		Specific target organ toxicity – prolonged or repeated exposure (chapter 3.9)	1	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P270	**Do not eat, drink or smoke when using this product.**	Acute toxicity – oral (chapter 3.1)	1, 2, 3, 4	
		Acute toxicity – dermal (chapter 3.1)	1, 2	
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
		Specific target organ toxicity – single exposure (chapter 3.8)	1, 2	
		Specific target organ toxicity – prolonged or repeated exposure (chapter 3.9)	1	
P271	**Use only outdoors or in a well-ventilated area.**	Acute toxicity – inhalation (chapter 3.1)	1, 2, 3, 4	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P272	**Contaminated work clothing should not be allowed out of the workplace.**	Skin sensitization (chapter 3.4)	1	
P273	**Avoid release to the environment.**	Hazardous to the aquatic environment – acute toxicity (chapter 4.1)	1, 2, 3	- *if this is not the intended use.*
		Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	1, 2, 3, 4	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P280	**Wear protective gloves/protective clothing/eye protection/face protection.**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	Manufacturer/supplier or the competent authority to specify type of equipment. - *Specify face protection.*
		Flammable liquids (chapter 2.6)	1, 2, 3, 4	Manufacturer/supplier or the competent authority to specify type of equipment. - *Specify protective gloves and eye/face protection.*
		Flammable solids (chapter 2.7)	1, 2	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Pyrophoric liquids (chapter 2.9)	1	
		Pyrophoric solids (chapter 2.10)	1	
		Self-heating substances and mixtures (chapter 2.11)	1, 2	
		Substances and mixtures which, in contact with water, emit flammable gases (chap. 2.12)	1, 2, 3	
		Oxidizing liquids (chapter 2.13)	1, 2, 3	
		Oxidizing solids (chapter 2.14)	1, 2, 3	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
		Acute toxicity – dermal (chapter 3.1)	1, 2, 3, 4	Manufacturer/supplier or the competent authority to specify type of equipment. - *Specify protective gloves/clothing.*
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	Manufacturer/supplier or the competent authority to specify type of equipment. - *Specify protective gloves/clothing and eye/face protection.*
		Skin irritation (chapter 3.2)	2	Manufacturer/supplier or the competent authority to specify type of equipment. - *Specify protective gloves.*
		Skin sensitization (chapter 3.4)	1	
		Severe eye damage (chapter 3.3)	1	

Code (1)	Prevention precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
		Eye irritation (chapter 3.3)	2A	Manufacturer/supplier or the competent authority to specify type of equipment. - *Specify eye/face protection.*
P281	**Use personal protective equipment as required.**	Explosives (chapter 2.1)	Unstable explosive	
		Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
P282	**Wear cold insulating gloves/face shield/eye protection.**	Gases under pressure (chapter 2.5)	Refrigerated liquefied gas	
P283	**Wear fire/flame resistant/retardant clothing.**	Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P284	**Wear respiratory protection.**	Acute toxicity – inhalation (chapter 3.1)	1, 2	Manufacturer/supplier or the competent authority to specify equipment.
P285	**In case of inadequate ventilation wear respiratory protection.**	Respiratory sensitization (chapter 3.4)	1	Manufacturer/supplier or the competent authority to specify equipment.
P231 + P232	**Handle under inert gas. Protect from moisture.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
P235 + P410	**Keep cool. Protect from sunlight.**	Self-heating substances and mixtures (chapter 2.11)	1, 2	

Table A2.3.3 Codification of response precautionary statements

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P301	**IF SWALLOWED:**	Acute toxicity – oral (chapter 3.1)	1, 2, 3, 4	
		Skin Corrosion (chapter 3.2)	1A, 1B, 1C	
		Aspiration Hazard (chapter 3.10)	1, 2	
P302	**IF ON SKIN:**	Pyrophoric liquids (chapter 2.9)	1	
		Acute toxicity – dermal (chapter 3.1)	1, 2, 3, 4	
		Skin irritation (chapter 3.2)	2	
		Skin sensitization (chapter 3.4)	1	
P303	**IF ON SKIN (or hair):**	Flammable liquids (chapter 2.6)	1, 2, 3	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
P304	**IF INHALED:**	Acute toxicity – inhalation (chapter 3.1)	1, 2, 3, 4, 5	
		Skin Corrosion (chapter 3.2)	1A, 1B, 1C	
		Respiratory sensitization (chapter 3.4)	1	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P305	**IF IN EYES:**	Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Severe eye damage (chapter 3.3)	1	
		Eye irritation (chapter 3.3)	2A, 2B	
P306	**IF ON CLOTHING:**	Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P307	**IF exposed:**	Specific target organ toxicity – single exposure (chapter 3.8)	1	
P308	**IF exposed or concerned:**	Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P309	**IF exposed or if you feel unwell:**	Specific target organ toxicity – single exposure (chapter 3.8)	2	
P310	**Immediately call a POISON CENTER or doctor/physician.**	Acute toxicity – oral (chapter 3.1)	1, 2, 3	
		Acute toxicity – dermal (chapter 3.1)	1, 2	
		Acute toxicity – inhalation (chapter 3.1)	1, 2	
		Skin Corrosion (chapter 3.2)	1A, 1B, 1C	
		Severe eye damage (chapter 3.3)	1	
		Aspiration Hazard (chapter 3.10)	1, 2	
P311	**Call a POISON CENTER or doctor/physician.**	Acute toxicity – inhalation (chapter 3.1)	3	
		Respiratory sensitization (chapter 3.4)	1	
		Specific target organ toxicity – single exposure (chapter 3.8)	1, 2	
P312	**Call a POISON CENTER or doctor/physician if you feel unwell.**	Acute toxicity – oral (chapter 3.1)	4	
		Acute toxicity – oral (chapter 3.1)	5	
		Acute toxicity – dermal (chapter 3.1)	3, 4, 5	
		Acute toxicity – inhalation (chapter 3.1)	4	
		Acute toxicity – inhalation (chapter 3.1)	5	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P313	**Get medical advice/attention.**	Skin irritation (chapter 3.2)	2, 3	
		Eye irritation (chapter 3.3)	2A, 2B	
		Skin sensitization (chapter 3.4)	1	
		Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
P314	**Get medical advice/attention if you feel unwell.**	Specific target organ toxicity – prolonged or repeated exposure (chapter 3.9)	1, 2	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P315	**Get immediate medical advice/attention.**	Gases under pressure (chapter 2.5)	Refrigerated liquefied gas	
P320	**Specific treatment is urgent (see ... on this label).**	Acute toxicity – inhalation (chapter 3.1)	1, 2	**...** Reference to supplemental first aid instruction. - *if immediate administration of antidote is required.*
P321	**Specific treatment (see ... on this label).**	Acute toxicity – oral (chapter 3.1)	1, 2, 3	**...** Reference to supplemental first aid instruction. - *if immediate administration of antidote is required.*
		Acute toxicity – inhalation (chapter 3.1)	3	**...** Reference to supplemental first aid instruction. - *if immediate specific measures are required.*
		Specific target organ toxicity – single exposure (chapter 3.8)	1	**...** Reference to supplemental first aid instruction. - *if immediate measures are required.*
		Skin sensitization (chapter 3.4)	1	**...** Reference to supplemental first aid instruction. - *manufacturer/supplier or competent authority may specify a cleansing agent if appropriate.*
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Skin irritation (chapter 3.2)	2	
P322	**Specific measures (see ... on this label).**	Acute toxicity – dermal (chapter 3.1)	1, 2	**...** Reference to supplemental first aid instruction. - *if immediate measures such as specific cleansing agent is advised.*
		Acute toxicity – dermal (chapter 3.1)	3, 4	**...** Reference to supplemental first aid instruction. - *if measures such as specific cleansing agent is advised.*
P330	**Rinse mouth.**	Acute toxicity – oral (chapter 3.1)	1, 2, 3, 4	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P331	**Do NOT induce vomiting.**	Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Aspiration hazard (chapter 3.10)	1, 2	
P332	**If skin irritation occurs:**	Skin irritation (chapter 3.2)	2, 3	
P333	**If skin irritation or rash occurs:**	Skin sensitization (chapter 3.4)	1	
P334	**Immerse in cool water/wrap in wet bandages.**	Pyrophoric liquids (chapter 2.9)	1	
		Pyrophoric solids (chapter 2.10)	1	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2	
P335	**Brush off loose particles from skin.**	Pyrophoric solids (chapter 2.10)	1	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2	
P336	**Thaw frosted parts with lukewarm water. Do not rub affected area.**	Gases under pressure (chapter 2.5)	Refrigerated liquefied gas	
P337	**If eye irritation persists:**	Eye irritation (chapter 3.3)	2A, 2B	
P338	**Remove contact lenses, if present and easy to do. Continue rinsing.**	Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Severe eye damage (chapter 3.3)	1	
		Eye irritation (chapter 3.3)	2A, 2B	
P340	**Remove to fresh air and keep at rest in a position comfortable for breathing.**	Acute toxicity – inhalation (chapter 3.1)	1, 2, 3, 4	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P341	**If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.**	Respiratory sensitization (chapter 3.4)	1	
P342	**If experiencing respiratory symptoms:**	Respiratory sensitization (chapter 3.4)	1	
P350	**Gently wash with plenty of soap and water.**	Acute toxicity – dermal (chapter 3.1)	1, 2	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P351	**Rinse cautiously with water for several minutes.**	Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Severe eye damage (chapter 3.3)	1	
		Eye irritation (chapter 3.3)	2A, 2B	
P352	**Wash with plenty of soap and water.**	Acute toxicity – dermal (chapter 3.1)	3, 4	
		Skin irritation (chapter 3.2)	2	
		Skin sensitization (chapter 3.4)	1	
P353	**Rinse skin with water/shower.**	Flammable liquids (chapter 2.6)	1, 2, 3	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
P360	**Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.**	Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P361	**Remove/Take off immediately all contaminated clothing.**	Flammable liquids (chapter 2.6)	1, 2, 3	
		Acute toxicity – dermal (chapter 3.1)	1, 2, 3	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
P362	**Take off contaminated clothing and wash before re-use.**	Skin irritation (chapter 3.2)	2	
P363	**Wash contaminated clothing before reuse.**	Acute toxicity – dermal (chapter 3.1)	1, 2, 3	
		Acute toxicity – dermal (chapter 3.1)	4	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Skin sensitization (chapter 3.4)	1	
P370	**In case of fire:**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	
		Oxidizing gases (chapter 2.4)	1	
		Flammable liquids (chapter 2.6)	1, 2, 3, 4	
		Flammable solids (chapter 2.7)	1, 2	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P370 (cont'd)		Pyrophoric liquids (chapter 2.9)	1	
		Pyrophoric solids (chapter 2.10)	1	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
		Oxidizing liquids (chapter 2.13)	1, 2, 3	
		Oxidizing solids (chapter 2.14)	1, 2, 3	
P371	**In case of major fire and large quantities:**	Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P372	**Explosion risk in case of fire.**	Explosives (chapter 2.1)	Unstable explosives and Divisions 1.1, 1.2, 1.3, 1.4, 1.5	- *except if explosives are 1.4S AMMUNITION AND COMPONENTS THEREOF.*
P373	**DO NOT fight fire when fire reaches explosives.**	Explosives (chapter 2.1)	Unstable explosives and Divisions 1.1, 1.2, 1.3, 1.4, 1.5	
P374	**Fight fire with normal precautions from a reasonable distance.**	Explosives (chapter 2.1)	Division 1.4S	- *if explosives are 1.4S AMMUNITION AND COMPONENTS THEREOF.*
P375	**Fight fire remotely due to the risk of explosion.**	Self-reactive substances and mixtures (chapter 2.8)	Types A, B	
		Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P376	**Stop leak if safe to do so.**	Oxidizing gases (chapter 2.4)	1	
P377	**Leaking gas fire: Do not extinguish, unless leak can be stopped safely.**	Flammable gases (chapter 2.2)	1, 2	
P378	**Use ... for extinction.**	Flammable liquids (chapter 2.6)	1, 2, 3, 4	**...** Manufacturer/supplier or the competent authority to specify appropriate media - *if water increases risk.*
		Flammable solids (chapter 2.7)	1, 2	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Pyrophoric liquids (chapter 2.9)	1	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P378 (cont'd)		Pyrophoric solids (chapter 2.10)	1	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
		Oxidizing liquids (chapter 2.13)	1, 2, 3	
		Oxidizing solids (chapter 2.14)	1, 2, 3	
P380	**Evacuate area.**	Explosives (chapter 2.1)	Unstable explosives	
		Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B	
		Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P381	**Eliminate all ignition sources if safe to do so.**	Flammable gases (chapter 2.2)	1, 2	
P390	**Absorb spillage to prevent material damage.**	Substances and mixtures Corrosive to metals (chapter 2.16)	1	
P391	**Collect spillage.**	Hazardous to the aquatic environment – acute toxicity (chapter 4.1)	1	
		Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	1, 2	
P301 + P310	**IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.**	Acute toxicity – oral (chapter 3.1)	1, 2, 3	
		Aspiration hazard (chapter 3.10)	1, 2	
P301 + P312	**IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.**	Acute toxicity – oral (chapter 3.1)	4	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P301 + P330 + P331	**IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.**	Skin Corrosion (chapter 3.2)	1A, 1B, 1C	
P302 + P334	**IF ON SKIN: Immerse in cool water/wrap in wet bandages.**	Pyrophoric liquids (chapter 2.9)	1	
P302 + P350	**IF ON SKIN: Gently wash with plenty of soap and water.**	Acute toxicity – dermal (chapter 3.1)	1, 2	
P302 + P352	**IF ON SKIN: Wash with plenty of soap and water.**	Acute toxicity – dermal (chapter 3.1)	3, 4	
		Skin irritation (chapter 3.2)	2	
		Skin sensitization (chapter 3.4)	1	
P303 + P361 + P353	**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**	Flammable liquids (chapter 2.6)	1, 2, 3	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
P304 + P312	**IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.**	Acute toxicity – inhalation (chapter 3.1)	5	
P304 + P340	**IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.**	Acute toxicity – inhalation (chapter 3.1)	1, 2, 3, 4	
		Skin Corrosion (chapter 3.2)	1A, 1B, 1C	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P304 + P341	**IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing.**	Respiratory sensitization (chapter 3.4)	1	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P305 + P351 + P338	**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**	Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Severe eye damage (chapter 3.3)	1	
		Eye irritation (chapter 3.3)	2A, 2B	
P306 + P360	**IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.**	Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	
P307 + P311	**IF exposed: Call a POISON CENTER or doctor/physician.**	Specific target organ toxicity – single exposure (chapter 3.8)	1	
P308 + P313	**IF exposed or concerned: Get medical advice/ attention.**	Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
		Reproductive toxicity – effects on or via lactation (chapter 3.7)	Additional category	
P309 + P311	**IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.**	Specific target organ toxicity – single exposure (chapter 3.8)	2	
P332 + P313	**If skin irritation occurs: Get medical advice/ attention.**	Skin irritation (chapter 3.2)	2, 3	
P333 + P313	**If skin irritation or rash occurs: Get medical advice/attention.**	Skin sensitization (chapter 3.4)	1	
P335 + P334	**Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages.**	Pyrophoric solids (chapter 2.10)	1	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P337 + P313	**If eye irritation persists: Get medical advice/attention.**	Eye irritation (chapter 3.3)	2A, 2B	
P342 + P311	**If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.**	Respiratory sensitization (chapter 3.4)	1	
P370 + P376	**In case of fire: Stop leak if safe to do so.**	Oxidizing gases (chapter 2.4)	1	
P370 + P378	**In case of fire: Use ... for extinction.**	Flammable liquids (chapter 2.6)	1, 2, 3, 4	**...** Manufacturer/supplier or the competent authority to specify appropriate media. - *if water increases risk.*
		Flammable solids (chapter 2.7)	1, 2	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Pyrophoric liquids (chapter 2.9)	1	
		Pyrophoric solids (chapter 2.10)	1	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
		Oxidizing liquids (chapter 2.13)	1, 2, 3	
		Oxidizing solids (chapter 2.14)	1, 2, 3	
P370 + P380	**In case of fire: Evacuate area.**	Explosives (chapter 2.1)	Divisions 1.1, 1.2, 1.3, 1.4, 1.5	
P370 + P380 + P375	**In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.**	Self-reactive substances and mixtures (chapter 2.8)	Types A, B	

Code (1)	Response precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P371 + P380 + P375	**In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.**	Oxidizing liquids (chapter 2.13)	1	
		Oxidizing solids (chapter 2.14)	1	

Table A2.3.4 Codification of storage precautionary statements

Code (1)	Storage precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P401	**Store …**	Explosives (chapter 2.1)	Unstable explosives and Divisions 1.1, 1.2, 1.3, 1.4, 1.5	**...** in accordance with local/regional/ national/international regulations (to be specified).
P402	**Store in a dry place.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
P403	**Store in a well-ventilated place.**	Flammable gases (chapter 2.2)	1, 2	
		Oxidizing gases (chapter 2.4)	1	
		Gases under pressure (chapter 2.5)	Compressed gas	
			Liquefied gas	
			Refrigerated Liquefied gas	
			Dissolved gas	
		Flammable liquids (chapter 2.6)	1, 2, 3, 4	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Acute toxicity – inhalation (chapter 3.1)	1, 2, 3	

Code (1)	Storage precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P403 (cont'd)		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	- *if product is volatile so as to generate hazardous atmosphere.*
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P404	**Store in a closed container.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
P405	**Store locked up.**	Acute toxicity – oral (chapter 3.1)	1, 2, 3	
		Acute toxicity – dermal (chapter 3.1)	1, 2, 3	
		Acute toxicity – inhalation (chapter 3.1)	1, 2, 3	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
		Specific target organ toxicity – single exposure (chapter 3.8)	1, 2	
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
		Aspiration hazard (chapter 3.10)	1, 2	
P406	**Store in corrosive resistant/... container with a resistant inner liner.**	Substances and mixtures corrosive to metals (chapter 2.16)	1	**...** Manufacturer/supplier or the competent authority to specify other compatible materials.
P407	**Maintain air gap between stacks/pallets.**	Self-heating substances and mixtures (chapter 2.11)	1, 2	

Code (1)	Storage precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P410	**Protect from sunlight.**	Flammable aerosols (chapter 2.3)	1, 2	
		Gases under pressure (chapter 2.5)	Compressed gas	
			Liquefied gas	
			Dissolved gas	
		Self-heating substances and mixtures (chapter 2.11)	1, 2	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
P411	**Store at temperatures not exceeding …°C/…°F.**	Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	**...** Manufacturer/supplier or the competent authority to specify temperature.
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
P412	**Do not expose to temperatures exceeding 50 °C/ 122 °F.**	Flammable aerosols (chapter 2.3)	1, 2	
P413	**Store bulk masses greater than … kg/…lbs at temperatures not exceeding …°C/…°F.**	Self-heating substances and mixtures (chapter 2.11)	1, 2	**...** Manufacturer/supplier or the competent authority to specify mass and temperature.
P420	**Store away from other materials.**	Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Self-heating substances and mixtures (chapter 2.11)	1, 2	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
P422	**Store contents under ...**	Pyrophoric liquids (chapter 2.9)	1	**...** Manufacturer/supplier or the competent authority to specify appropriate liquid or inert gas.
		Pyrophoric solids (chapter 2.10)	1	

Code (1)	Storage precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P402 + P404	**Store in a dry place. Store in a closed container.**	Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
P403 + P233	**Store in a well-ventilated place. Keep container tightly closed.**	Acute toxicity – inhalation (chapter 3.1)	1, 2, 3	- *if product is volatile so as to generate hazardous atmosphere.*
		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
P403 + P235	**Store in a well-ventilated place. Keep cool.**	Flammable liquids (chapter 2.6)	1, 2, 3, 4	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
P410 + P403	**Protect from sunlight. Store in a well-ventilated place.**	Gases under pressure (chapter 2.5)	Compressed gas	
			Liquefied gas	
			Dissolved gas	
P410 + P412	**Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.**	Flammable aerosols (chapter 2.3)	1, 2	
P411 + P235	**Store at temperatures not exceeding …°C/…°F. Keep cool.**	Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	**...** Manufacturer/supplier or the competent authority to specify temperature.

Table A2.3.5 Codification of disposal precautionary statements

Code (1)	Disposal precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P501	**Dispose of contents/container to ...**	Explosives (chapter 2.1)	Unstable explosives and Divisions 1.1, 1.2, 1.3, 1.4, 1.5	**...** in accordance with local/regional/ national/international regulation (to be specified).
		Flammable liquids (chapter 2.6)	1, 2, 3, 4	
		Self-reactive substances and mixtures (chapter 2.8)	Types A, B, C, D, E, F	
		Substances and mixtures which, in contact with water, emit flammable gases (chapter 2.12)	1, 2, 3	
		Oxidizing liquids (chapter 2.13)	1, 2, 3	
		Oxidizing solids (chapter 2.14)	1, 2, 3	
		Organic peroxides (chapter 2.15)	Types A, B, C, D, E, F	
		Acute toxicity – oral (chapter 3.1)	1, 2, 3, 4	
		Acute toxicity – dermal (chapter 3.1)	1, 2, 3, 4	
		Acute toxicity – inhalation (chapter 3.1)	1, 2	
		Skin corrosion (chapter 3.2)	1A, 1B, 1C	
		Respiratory sensitization (chapter 3.4)	1	
		Skin sensitization (chapter 3.4)	1	
		Germ cell mutagenicity (chapter 3.5)	1A, 1B, 2	
		Carcinogenicity (chapter 3.6)	1A, 1B, 2	
		Reproductive toxicity (chapter 3.7)	1A, 1B, 2	
		Specific target organ toxicity – single exposure (chapter 3.8)	1, 2	

Code (1)	Disposal precautionary statements (2)	Hazard class (3)	Hazard category (4)	Conditions for use (5)
P501 *(cont'd)*		Specific target organ toxicity – single exposure; respiratory tract irritation (chapter 3.8)	3	
		Specific target organ toxicity – single exposure; narcosis (chapter 3.8)	3	
		Specific target organ toxicity – prolonged or repeated exposure (chapter 3.9)	1, 2	
		Aspiration hazard (chapter 3.10)	1, 2	
		Hazardous to the aquatic environment – acute toxicity (chapter 4.1)	1, 2, 3	
		Hazardous to the aquatic environment – chronic toxicity (chapter 4.1)	1, 2, 3, 4	

Annex 2

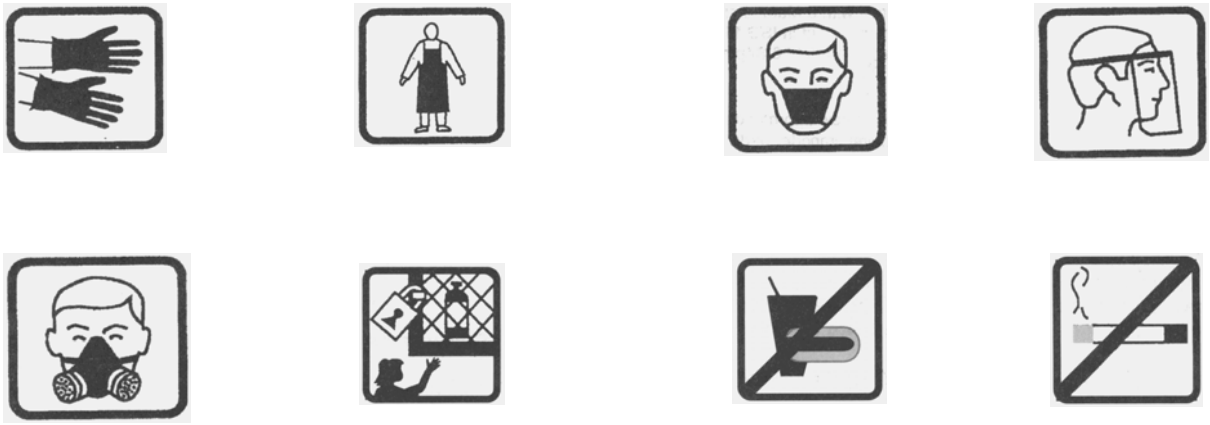
SECTION 4

EXAMPLES OF PRECAUTIONARY PICTOGRAMS

A2.4.1 Examples of precautionary pictograms

From European Union (Council directive 92/58/EEC of 24 June 1992)

From South African Bureau of Standards (SABS 0265:1999)



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ANNEX 3

ALLOCATION OF LABEL ELEMENTS

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Annex 3

ALLOCATION OF LABEL ELEMENTS

A3.1 Introduction

A3.1.1 General information

A3.1.1.1 This Annex provides information in the following order for each hazard class and hazard category of the GHS:

Column (1)	Hazard category;
Column (2)	The assigned TDG pictogram, where applicable;
Column (3)	The assigned GHS pictogram;
Column (4)	The assigned signal word;
Column (5)	The code for the assigned hazard statement;
Columns (6) to (9)	The code for the assigned precautionary statements by precautionary statement type.

A3.1.2 Pictograms

A3.1.2.1 Information relating to pictograms is contained in Annex 2 section 1, which contains illustration of both GHS and TDG (Transport of Dangerous Goods) pictograms.

A3.1.2.2 Provisions relating to pictograms in Part 1 and Annex 2 section 1 of the GHS shall be observed.

A3.1.3 Hazard statements

A3.1.3.1 This Annex references the codes for hazard statements, the text for which is contained in Annex 2 section 2. The hazard statement codes are intended to be used for reference purposes. They are not part of the hazard statement text and should not be used to replace it. However the hazard statement codes can be used in addition to the hazard statement text in a safety data sheet.

A3.1.3.2 Provisions relating to hazard statements in Part 1 and Annex 2 section 2 of the GHS shall be observed.

A3.1.4 Precautionary statements

A3.1.4.1 This Annex references the codes for the recommended precautionary statements for each hazard class and hazard category, the text for which is contained in Annex 2 section 3. The precautionary statement codes are intended to be used for reference purposes. They are not part of the precautionary statement text and should not be used to replace it.

A3.1.4.2 General precautionary statements are assigned on the basis of use and not hazard, and are therefore not included in this Annex.

A3.1.4.3 In this Annex the code(s) that comprise the reference to an individual precautionary statement text that appears on a label are terminated by a semi-colon (;). In some cases there is more than

one precautionary statement code that is added to another/others to provide the full precautionary statement text that appears on a label. In such cases the individual codes are conjoined by a plus sign (+) (see A2.3.3.7).

A3.1.4.4 Provisions relating to precautionary statements in Part 1 and Annex 2 section 3 of the GHS shall be observed, including any conditions relating to their use.

A3.2 Physical hazards

A3.2.1 *Explosives*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
Unstable explosives	**No pictogram assigned in *UN RTDG*. (Transport not allowed)**		**Danger**	**H200;**	**P201; P202; P281;**	**P372; P373; P380;**	**P401;**	**P501;**
Division 1.1			**Danger**	**H201;**	**P210; P230; P240; P250; P280;**	**P370 + P380; P372; P373;**	**P401;**	**P501;**
Division 1.2			**Danger**	**H202;**	**P210; P230; P240; P250; P280;**	**P370 + P380; P372; P373;**	**P401;**	**P501;**
Division 1.3			**Danger**	**H203;**	**P210; P230; P240; P250; P280;**	**P370 + P380; P372; P373;**	**P401;**	**P501;**

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
Division 1.4			**Warning**	**H204;**	**P210; P240; P250; P280;**	**P370 + P380; P372; P373; P374;**	**P401;**	**P501;**
Division 1.5			**Danger**	**H205;**	**P210; P230; P240; P250; P280;**	**P370 + P380; P372; P373;**	**P401;**	**P501;**
Division 1.6			**No signal word**	**No hazard statement**				

A3.2.2 ***Flammable gases***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H220;	P210;	P377; P381;	P403;	
2	Not required under the *UN RTDG Model Regulations*	No pictogram	Warning	H221;	P210;	P377; P381;	P403;	

A3.2.3 ***Flammable aerosols***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H222;	P210; P211; P251;		P410 + P412;	
2			Warning	H223;	P210; P211; P251;		P410 + P412;	

A3.2.4 ***Oxidizing gases***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H270;**	**P220;** **P244;**	**P370 + P376;**	**P403;**	

A3.2.5 *Gases under pressure*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
Compressed gas			**Warning**	**H280;**			**P410 + P403;**	
Liquefied gas			**Warning**	**H280;**			**P410 + P403;**	
Refrigerated liquefied gas			**Warning**	**H281;**	**P282;**	**P336; P315;**	**P403;**	
Dissolved gas			**Warning**	**H280;**			**P410 + P403;**	

A3.2.6 ***Flammable liquids***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H224;**	**P210; P233; P240; P241; P242; P243; P280;**	**P303 +P361 + P353; P370 + P378;**	**P403 + P235;**	**P501;**
2			**Danger**	**H225;**	**P210; P233; P240; P241; P242; P243; P280;**	**P303 +P361 + P353; P370 + P378;**	**P403 + P235;**	**P501;**
3			**Warning**	**H226;**	**P210; P233; P240; P241; P242; P243; P280;**	**P303 +P361 + P353; P370 + P378;**	**P403 + P235;**	**P501;**
4	**Not required under the *UN RTDG Model Regulations***	**No pictogram**	**Warning**	**H227;**	**P210; P280;**	**P370 + P378;**	**P403 + P235;**	**P501;**

A3.2.7 ***Flammable solids***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H228;**	**P210; P240; P241; P280;**	**P370 + P378;**		
2			**Warning**	**H228;**	**P210; P240; P241; P280;**	**P370 + P378;**		

A3.2.8 ***Self-reactive substances and mixtures***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
Type A	**Same as for explosives (follow the same symbol selection process)**		**Danger**	**H240;**	**P210; P220; P234; P280;**	**P370 + P378; P370 + P380 + P375;**	**P403 + P235; P411; P420;**	**P501;**
Type B			**Danger**	**H241;**	**P210; P220; P234; P280;**	**P370 + P378; P370 + P380 + P375;**	**P403 + P235; P411; P420;**	**P501;**
Types C and D			**Danger**	**H242;**	**P210; P220; P234; P280;**	**P370 + P378;**	**P403 + P235; P411; P420;**	**P501;**
Types E and F			**Warning**	**H242;**	**P210; P220; P234; P280;**	**P370 + P378;**	**P403 + P235; P411; P420;**	**P501;**

Hazard category	Pictogram TDG	Pictogram GHS	Signal word	Hazard statement code	Precautionary statement codes			
					Prevention	Response	Storage	Disposal
Type G	Not required under the *UN RTDG Model Regulations*	No pictogram	No signal word	No hazard Statement				

A3.2.9 *Pyrophoric liquids*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H250;	P210; P222; P280;	P302 + P334; P370 + P378;	P422;	

A3.2.10 *Pyrophoric solids*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H250;	P210; P222; P280;	P335 + P334; P370 + P378;	P422;	

A3.2.11 ***Self-heating substances and mixtures***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H251;**	**P235 + P410; P280;**		**P407; P413; P420;**	
2			**Warning**	**H252;**				

A3.2.12 ***Substances and mixtures, which in contact with water, emit flammable gases***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H260;**	**P223; P231 + P232; P280;**	**P335 + P334; P370 + P378;**	**P402 + P404;**	**P501;**
2			**Danger**	**H261;**	**P223; P231 + P232; P280;**	**P335 + P334; P370 + P378;**	**P402 + P404;**	**P501;**
3			**Warning**	**H261;**	**P231 + P232; P280;**	**P370 + P378;**	**P402 + P404;**	**P501;**

A3.2.13 ***Oxidizing liquids***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H271;	P210; P220; P221; P280; P283;	P306 +P360; P371+P380 + P375; P370 + P378;		P501;
2			Danger	H272;	P210; P220; P221; P280;	P370 + P378;		P501;
3			Warning	H272;	P210; P220; P221; P280;	P370 + P378;		P501;

A3.2.14 ***Oxidizing solids***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H271;	P210; P220; P221; P280; P283;	P306 +P360; P371+P380 + P375; P370 + P378;		P501;
2			Danger	H272;	P210; P220; P221; P280;	P370 + P378;		P501;
3			Warning	H272;	P210; P220; P221; P280;	P370 + P378;		P501;

A3.2.15 ***Organic peroxides***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
Type A	**Same as for explosives (follow the same symbol selection process)**		**Danger**	**H240;**	**P210; P220; P234; P280;**		**P411 + P235; P410; P420;**	**P501;**
Type B			**Danger**	**H241;**	**P210; P220; P234; P280;**		**P411 + P235; P410; P420;**	**P501;**
Types C and D			**Danger**	**H242;**	**P210; P220; P234; P280;**		**P411 + P235; P410; P420;**	**P501;**
Types E and F			**Warning**	**H242;**	**P210; P220; P234; P280;**		**P411 + P235; P410; P420;**	**P501;**

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
Type G	**Not required under the *UN RTDG Model Regulations***	**No pictogram**	**No signal word**	**No hazard statement**				

A3.2.16 ***Corrosive to metals***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Warning**	**H290;**	**P234;**	**P390;**	**P406;**	

A3.3 Health hazards

A3.3.1 (a) *Acute toxicity: Oral*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Danger	H300;	P264; P270;	P301 + P310; P321; P330;	P405;	P501;
2			Danger	H300;	P264; P270;	P301 + P310; P321; P330;	P405;	P501;
3			Danger	H301;	P264; P270;	P301 + P310; P321; P330;	P405;	P501;
4	Not applicable for the *UN RTDG Model Regulations*		Warning	H302;	P264; P270;	P301 + P312; P330;		P501;
5	Not applicable for the *UN RTDG Model Regulations*	No pictogram	Warning	H303;		P312;		

A3.3.1 (b) ***Acute toxicity: Dermal***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H310;**	**P262; P264; P270; P280;**	**P302 + P350; P310; P322; P361; P363;**	**P405;**	**P501;**
2			**Danger**	**H310;**	**P262; P264; P270; P280;**	**P302 + P350; P310; P322; P361; P363;**	**P405;**	**P501;**
3			**Danger**	**H311;**	**P280;**	**P302 + P352; P312; P322; P361; P363;**	**P405;**	**P501;**
4	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H312;**	**P280;**	**P302 + P352; P312; P322; P363;**		**P501;**
5	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**Warning**	**H313;**		**P312;**		

A3.3.1 (c) ***Acute toxicity: inhalation***

(i) *(dusts and mists, vapours)*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H330;**	**P260; P271; P284;**	**P304 + P340; P310; P320;**	**P403 + P233; P405;**	**P501;**
2			**Danger**	**H330;**	**P260; P271; P284;**	**P304 + P340; P310; P320;**	**P403 + P233; P405;**	**P501;**
3			**Danger**	**H331;**	**P261; P271;**	**P304 + P340; P311; P321;**	**P403 + P233; P405;**	**P501;**
4	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H332;**	**P261; P271;**	**P304 + P340; P312;**		
5	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**Warning**	**H333;**		**P304 + P312;**		

A3.3.1 (c) ***Acute toxicity: inhalation (cont'd)***

(ii) *Gases*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Danger**	**H330;**	**P260; P271; P284;**	**P304 + P340; P310; P320;**	**P403 + P233; P405;**	**P501;**
2			**Danger**	**H330;**	**P260; P271; P284;**	**P304 + P340; P310; P320;**	**P403 + P233; P405;**	**P501;**
3			**Danger**	**H331;**	**P261; P271;**	**P304 + P340; P311; P321;**	**P403 + P233; P405;**	**P501;**
4	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H332;**	**P261; P271;**	**P304 + P340; P312;**		
5	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**Warning**	**H333;**		**P304 + P312;**		

A3.3.2 ***Skin corrosion/irritation***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1A to 1C			**Danger**	**H314;**	**P260; P264; P280;**	**P301 + P330 + P331; P303 + P361 + P353; P363; P304 + P340; P310; P321; P305 + P351 + P338;**	**P405;**	**P501;**
2	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H315;**	**P264; P280;**	**P302 + P352; P321; P332 + P313; P362;**		
3	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**Warning**	**H316;**		**P332 + P313;**		

A3.3.3 ***Severe eye damage/eye irritation***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H318;**	**P280;**	**P305 + P351 + P338; P310;**		
2A	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H319;**	**P264; P280;**	**P305 + P351 + P338; P337 + P313;**		
2B	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**Warning**	**H320;**	**P264;**	**P305 + P351 + P338; P337 + P313;**		

A3.3.4 (a) ***Respiratory sensitization***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1	Not applicable for the *UN RTDG Model Regulations*		Danger	H334;	P261; P285;	P304 + P341; P342 + P311		P501;

A3.3.4 (b) ***Skin sensitization***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1	Not applicable for the *UN RTDG Model Regulations*		Warning	H317;	P261; P272; P280;	P302 + P352; P333 + P313; P321; P363;		P501;

A3.3.5 ***Germ cell mutagenicity***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1A	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H340;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
1B	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H340;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
2	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H341;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**

A3.3.6 ***Carcinogenicity***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1A	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H350;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
1B	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H350;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
2	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H351;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**

A3.3.7 ***Reproductive toxicity***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1A	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H360;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
1B	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H360;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
2	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H361;**	**P201; P202; P281;**	**P308 + P313;**	**P405;**	**P501;**
Additional Category Effects on or via lactation	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**No signal word**	**H362;**	**P201; P260; P263; P264; P270;**	**P308 + P313;**		

A3.3.8 ***Specific Target Organ Toxicity (single exposure)***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1	**Not applicable for the *UN RTDG Model Regulations***		**Danger**	**H370;**	**P260; P264; P270;**	**P307 + P311; P321;**	**P405;**	**P501;**
2	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H371;**	**P260; P264; P270;**	**P309 + P311;**	**P405;**	**P501;**
3	**Not applicable for the *UN RTDG Model Regulations***		**Warning**	**H335** (Respiratory tract irritation) **H336** (Narcotic effects)	**P261; P271;**	**P304 + P340; P312;**	**P403 + P233; P405;**	**P501;**

A3.3.9 *Specific Target Organ Toxicity (repeated exposure)*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1	Not applicable for the *UN RTDG Model Regulations*		Danger	H372;	P260; P264; P270;	P314;		P501;
2	Not applicable for the *UN RTDG Model Regulations*		Warning	H373;	P260;	P314;		P501;

A3.3.10 *Aspiration hazard*

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1	Not applicable for the *UN RTDG Model Regulations*		Danger	H304;		P301 + P310; P331	P405;	P501;
2	Not applicable for the *UN RTDG Model Regulations*		Warning	H305;		P301 + P310; P331	P405;	P501;

A3.4 Environmental hazards

A3.4.1 (a) ***Hazardous to the aquatic environment – Acute aquatic toxicity***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			Warning	H400;	P273;	P391;		P501;
2	Not applicable for the *UN RTDG Model Regulations*	No pictogram	No signal word	H401;	P273;			P501;
3	Not applicable for the *UN RTDG Model Regulations*	No pictogram	No signal word	H402;	P273;			P501;

A3.4.1 (b) ***Hazardous to the aquatic environment – Chronic aquatic toxicity***

Hazard category (1)	Pictogram TDG (2)	Pictogram GHS (3)	Signal word (4)	Hazard statement code (5)	Precautionary statement codes			
					Prevention (6)	Response (7)	Storage (8)	Disposal (9)
1			**Warning**	**H410;**	**P273;**	**P391;**		**P501;**
2			**No signal word**	**H411;**	**P273;**	**P391;**		**P501;**
3	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**No signal word**	**H412;**	**P273;**			**P501;**
4	**Not applicable for the *UN RTDG Model Regulations***	**No pictogram**	**No signal word**	**H413;**	**P273;**			**P501;**