Reprint
as at 1 December 2017

Hazardous Substances (Classification) Regulations 2001

(SR 2001/113)

Hazardous Substances (Classification) Regulations 2001: revoked, on 1 December 2017, by regulation 4(1) of the Hazardous Substances (Health and Safety Reform Revocations) Regulations 2017 (LI 2017/233).

Silvia Cartwright, Governor-General

Order in Council

At Wellington this 28th day of May 2001

Present:
Her Excellency the Governor-General in Council

Pursuant to section 74(a) of the Hazardous Substances and New Organisms Act 1996, Her Excellency the Governor-General, acting on the advice and with the consent of the Executive Council (given on the recommendation of the Minister for the Environment made in compliance with section 141(1) of that Act), makes the following regulations.

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Note

Changes authorised by subpart 2 of Part 2 of the Legislation Act 2012 have been made in this official reprint.

Note 4 at the end of this reprint provides a list of the amendments incorporated.

These regulations are administered by the Ministry for the Environment.

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Regulations

1 Title

These regulations are the Hazardous Substances (Classification) Regulations 2001.

2 Commencement

These regulations come into force on 2 July 2001.

3 Interpretation

In these regulations, unless the context otherwise requires,—

Act means the Hazardous Substances and New Organisms Act 1996

ASTM has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

corrosive substance means a substance that meets the minimum degree of hazard prescribed by Schedule 5 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a substance with corrosive properties

data has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

desensitising agent means a substance or material that, when mixed with a class 1, class 4.1.2, or class 5.2 substance, produces a mixture that has reduced hazardous properties (in terms of those classifications) compared with the original class 1, class 4.1.2, or class 5.2 substance

ecotoxic substance means a substance that meets the minimum degree of hazard prescribed by Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a substance with ecotoxic properties

explosive substance means a substance or article that meets the minimum degree of hazard prescribed by Schedule 1 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a substance with explosive properties

flammable substance means a substance that meets the minimum degree of hazard prescribed by Schedule 2 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a substance with flammable properties

gas has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

ISO has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

liquid has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

organic peroxide means a substance that meets the minimum degree of hazard prescribed by Schedule 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a class 5.2 substance

oxidising substance means a substance that meets the minimum degree of hazard prescribed by Schedule 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a substance with oxidising properties that is classified as a class 5.1.1 or 5.1.2 substance; but does not include organic peroxide

SADT has the same meaning as it has in Schedule 2 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

solid has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

Test Series has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

toxic substance means a substance that meets the minimum degree of hazard prescribed by Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001 for a substance with toxic properties

UN Manual of Tests and Criteria has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

UN Model Regulations has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

4 Classification system

(1) Except as provided in subclauses (6) and (7), the classification system for hazardous substances comprises—

(a) numbered classes (for example, class 4) indicating the intrinsic hazardous property of a substance:

(b) numbered subclasses (for example, subclass 4.2) indicating the type of hazard of a substance:

(c) lettered categories (for example, category A) indicating the degree of hazard of a substance.

(2) The combination of numbers and letters used in the classification system constitutes the hazard classification of a substance.

(3) Regulation 5 sets out the classes for each hazardous property.

(4) Regulations 6 to 11 set out the subclasses for each hazardous property class and also identify the categories of each subclass (except for substances with explosive properties).

(5) The schedules set out the criteria for each hazard classification (except for substances with explosive properties).

(6) All explosive substances are divided into both a subclass (indicating the type of explosive hazard) and a category (indicating compatibility groupings) in the combinations permitted by regulation 6. Categories for explosive substances do not indicate the degree of hazard.

(7) Categories for toxic substances do not necessarily indicate the degree of hazard.

(8) The table set out in Schedule 7 is intended as a guide to the classification system under these regulations.

5 Classes of hazardous properties

(1) The classes of hazardous properties are as follows:

(a) class 1—explosiveness:

(b) class 2—flammability, gases:

(c) class 3—flammability, liquids:

(d) class 4—flammability, solids:

(e) class 5—capacity to oxidise:

(f) class 6—toxicity:

(g) class 8—corrosiveness:

(h) class 9—ecotoxicity.

(2) Class 7 is unallocated.

6 Subclasses and categories for explosive substances

(1) Explosive substances are divided into the subclasses 1.1, 1.2, 1.3, 1.4, 1.5, and 1.6 set out in the table in Part 1 of Schedule 1. A substance or article is classified as being in a particular subclass if it meets the criteria set out in that table for that subclass.

(2) Explosive substances are also divided into the categories A to H, J, K, L, N, and S set out in the table in Part 2 of Schedule 1. Categories I, M, O, P, Q, and R are unallocated. A substance or article is classified as being in a particular category if it meets the criteria set out in that table for that category.

(3) For the purposes of subclass 1.4,—

(a) a substance or an article that meets any one of the criteria of paragraph 16.6.1.4.5 of the UN Manual of Tests and Criteria must be allocated a category other than category S; and

(b) a substance or an article that meets the criteria of paragraph 16.6.1.4.6 of the UN Manual of Tests and Criteria must be allocated to category S; and

(c) a substance or an article that meets the criteria of paragraph 16.6.1.4.7(a)(i) of the UN Manual of Tests and Criteria must be allocated to category S.

(4) No explosive substance may be allocated the following hazard classifications: 1.1H, 1.1K, 1.1N, 1.1S; 1.2A, 1.2N, 1.2S; 1.3A, 1.3B, 1.3D, 1.3E, 1.3N, 1.3S; 1.4A, 1.4H, 1.4J, 1.4K, 1.4L, 1.4N; 1.5A, 1.5B, 1.5C, 1.5E, 1.5F, 1.5G, 1.5H, 1.5J, 1.5K, 1.5L, 1.5N, 1.5S; 1.6A, 1.6B, 1.6C, 1.6D, 1.6E, 1.6F, 1.6G, 1.6H, 1.6J, 1.6K, 1.6L, or 1.6S.

7 Subclasses and categories for flammable substances

(1) Flammable substances are divided into the subclasses 2.1.1, 2.1.2, 3.1, 3.2, 4.1.1, 4.1.2, 4.1.3, 4.2, and 4.3, and each subclass is divided into 1 or more categories.

(2) A flammable substance is classified as having a particular hazard classification if it meets the criteria set out in the table in Schedule 2 for that hazard classification.

(3) For the purposes of this regulation, substances classified as class 4 (flammable solids) are not necessarily solids.

(4) For the purposes of subclass 4.1.2,—

(a) if a substance does not meet the criteria for a 4.1.2A, 4.1.2B, or 4.1.2C hazard classification, a 4.1.2D hazard classification applies unless sufficient data are provided that show the substance meets the criteria for hazard classification 4.1.2E, 4.1.2F, or 4.1.2G:

(b) Test Series A, B, C, D, E, F, and G refer to UN Tests for Self-Reactive Substances and Organic Peroxides in sections 21, 22, 23, 24, 25, 26, and 27 respectively of the UN Manual of Tests and Criteria.

(5) Subclasses 2.2 and 2.3 are unallocated.

8 Subclasses and categories for oxidising substances and organic peroxides

(1) Oxidising substances are divided into the subclasses 5.1.1 and 5.1.2, organic peroxides are subclass 5.2, and each subclass is divided into 1 or more categories.

(2) An oxidising substance or organic peroxide is classified as having a particular hazard classification if it meets the criteria set out in the table in Schedule 3 for that hazard classification.

(3) For the purposes of subclass 5.2,—

(a) if a substance does not meet the criteria for a 5.2A, 5.2B, or 5.2C hazard classification, a 5.2D hazard classification applies unless sufficient data are provided that show the substance meets the criteria for hazard classification 5.2E, 5.2F, or 5.2G:

(b) Test Series A, B, C, D, E, F, and G refer to UN Tests for Self-Reactive Substances and Organic Peroxides in sections 21, 22, 23, 24, 25, 26, and 27 respectively of the UN Manual of Tests and Criteria.

9 Subclasses and categories for toxic substances

(1) Toxic substances are divided into the subclasses 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, 6.8, and 6.9, and each subclass is divided into 1 or more categories.

(2) A toxic substance is classified as having a particular hazard classification if it meets the criteria set out in the table in Schedule 4 for that hazard classification.

(3) For the purposes of subclass 6.1, toxic substances that meet the criteria for more than 1 category must be classified in the category with the highest degree of hazard.

(4) Subclass 6.2 is unallocated.

10 Subclasses and categories for corrosive substances

(1) Corrosive substances are divided into the subclasses 8.1, 8.2, and 8.3, and each subclass is divided into 1 or more categories.

(2) A corrosive substance is classified as having a particular hazard classification if it meets the criteria set out in the table in Schedule 5 for that hazard classification.

11 Subclasses and categories for ecotoxic substances

(1) Ecotoxic substances are divided into the subclasses 9.1, 9.2, 9.3, and 9.4, and each subclass is divided into 1 or more categories.

(2) An ecotoxic substance is classified as having a particular hazard classification if it meets the criteria set out in the table in Schedule 6 for that hazard classification.

Schedule 1
Classification criteria for explosive substances

r 6

Part 1
Subclasses for explosive substances and articles

1 Interpretation

In this Part, unless the context otherwise requires, **detonate** has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

2 Subclasses

Explosive substances and articles are classified in the subclasses set out in the first column of the table in this Part.

3 Criteria

The criteria for each subclass are set out in the second column of the table in this Part.

Table of subclasses and criteria

Subclasses	Criteria for each subclass
1.1—*Substances and articles that have a mass explosion hazard*	A substance that— (a) meets the criteria of paragraph 16.4.1.4 of the UN Manual of Tests and Criteria when an individual article or package is tested as prescribed in Test Series 6 type (a) of paragraph 16.4 of that manual; or (b) meets the criteria of paragraph 16.5.1.8 of the UN Manual of Tests and Criteria when a stack of articles or packages is tested as prescribed in Test Series 6 type (b) of paragraph 16.5 of that manual; or (c) meets the criteria of paragraph 16.6.1.4.2 of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual.
1.2—*Substances and articles that have a projection hazard but not a mass explosion hazard*	A substance that does not meet the criteria for subclass 1.1, but meets any one of the criteria in paragraph 16.6.1.4.3 of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual.
1.3—*Substances and articles that have a fire hazard and either a minor blast hazard or a minor projection hazard, or both, but not a mass explosion hazard*	A substance that does not meet the criteria for each of subclasses 1.1 and 1.2, but meets any one of the criteria of paragraph 16.6.1.4.4 of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual.

Subclasses	Criteria for each subclass
1.4—*Substances and articles that present no significant explosive hazard* **Note:** see regulation 6(3) for substances and articles that must or must not be allocated category S.	A substance that— (a) does not meet the criteria for each of subclasses 1.1, 1.2, and 1.3, but meets any one of the criteria of paragraph 16.6.1.4.5 of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual; or (b) does not meet the criteria for each of subclasses 1.1, 1.2, and 1.3, or for paragraph (a), but meets the criteria of paragraph 16.6.1.4.6 of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual; or (c) does not meet the criteria of each of subclasses 1.1, 1.2, and 1.3, or for paragraph (a) or paragraph (b), but meets the criteria of paragraph 16.6.1.4.7(a)(i) of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual.
1.5—*Very insensitive substances that have a mass explosion hazard* **Note:** if a substance meets any one of the criteria specified in Test Series 5, it must be tested and allocated according to Test Series 6.	A substance that is a very insensitive explosive substance that— (a) does not meet any one of the criteria for a positive result in paragraph 15.4.1.4 of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 5 type (a) of paragraph 15.4 of that manual; and (b) does not meet any one of the criteria for a positive result in any one of paragraphs 15.5.1.4, 15.5.2.4, and 15.5.3.4 of the UN Manual of Tests and Criteria when tested as prescribed in the respective tests of Test Series 5 type (b) of paragraph 15.5 of that manual; and (c) does not meet the criterion for a positive result in paragraph 15.6.1.4 when tested as prescribed in Test Series 5 type (c) of paragraph 15.6 of the UN Manual of Tests and Criteria.
1.6—*Extremely insensitive articles that do not have a mass explosion hazard*	An article that— (a) is manufactured from a substance that is an extremely insensitive detonating substance if that substance fails to meet any one of the criteria for a positive result in any of paragraphs 17.4.1.4, 17.5.1.4, 17.6.1.4, 17.6.2.4, 17.7.1.4, 17.7.2.4, 17.8.1.4, and 17.9.1.4 of the UN Manual of Tests and Criteria when tested as prescribed in the respective tests of Test Series 7 type (a), (b), (c), (d), (e), and (f) of section 17 of that manual; and

Subclasses	Criteria for each subclass
	(b) fails to meet any one of the criteria for a positive result in any of paragraphs 17.10.1.4, 17.11.1.4, 17.12.1.4, and 17.13.1.4 of the UN Manual of Tests and Criteria when tested as prescribed in the respective tests of Test Series 7 type (g), (h), (j), and (k) of section 17 of that manual.

Part 2
Categories for explosive substances and articles

4 Interpretation

In this Part, unless the context otherwise requires,—

deflagrate has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

effective protective feature means a device incorporated into an explosive article that will prevent accidental functioning during normal conditions of transport, storage, or handling

primary explosive substance means a substance that—

(a) has the necessary sensitivity to heat, friction, or shock to make it suitable for initiating secondary detonating explosive substances and articles; and

(b) when incorporated into an explosive article, is known as a primer or detonator

propellant explosive substance means a substance that deflagrates

pyrotechnic effect has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

pyrotechnic substance means a substance that produces pyrotechnic effects

secondary detonating explosive substance means a substance designed to detonate that requires stimulation equivalent to the detonation of a primary explosive substance to initiate it.

5 Table of categories

Explosive substances and articles are also classified in categories according to the criteria set out in the following table. The categories are set out in the first column and the criteria for each category are set out in the second column.

Table of categories

Category	Criteria for each category
A	A primary explosive substance that is very sensitive to heat, impact, or friction, or able to transmit detonation or deflagration to secondary detonating explosive substances close

Category	Criteria for each category
	to it, as measured by the criteria in any of paragraphs 13.4.1.4, 13.4.2.4, 13.4.3.4, 13.4.4.4, 13.4.5.4, 13.4.6.4, 13.5.1.4, 13.5.2.4, 13.5.3.4, and 13.7.1.3 of the UN Manual of Tests and Criteria in the respective tests of Test Series 3 type (a), (b), and (d) of section 13 of that manual.
B	An article that— (a) contains a primary explosive substance, and less than 2 effective protective features; or (b) is designed to be a primer, detonator, or detonator assembly for blasting.
C	A propellant explosive substance or an article containing a propellant explosive substance.
D	(a) a secondary detonating explosive substance that— (i) is less sensitive than primary explosive substances and more sensitive than substances falling into category N; and (ii) is without a means of initiation and without a propelling charge; or (b) an article containing those secondary detonating explosive substances that is without a means of initiation and without a propelling charge; or (c) an article containing a primary explosive substance and 2 or more effective protective features.
E	An article containing a secondary detonating explosive substance that is without a means of initiation but with a propelling charge (other than a charge containing a flammable liquid, or hypergolic liquids).
F	An article containing a secondary detonating explosive substance that— (a) has its own means of initiation (being an article containing a primary explosive substance designed to initiate the secondary explosive substance); and (b) is with or without a propelling charge (other than a charge containing a flammable liquid or hypergolic liquids).
G	(a) a pyrotechnic substance; or (b) an article that contains a pyrotechnic substance; or (c) an article containing both an explosive substance and an illuminating, incendiary, tear, or smoke-producing substance (other than a water-activated article or an article containing white phosphorus, a phosphide, a pyrophoric substance, a flammable liquid, or hypergolic liquids).
H	An article containing both an explosive substance and white phosphorus.
J	An article containing both an explosive substance and a flammable liquid.
K	An article containing both—

Category	Criteria for each category
	(a) an explosive substance; and (b) a substance with a hazard classification of 6.1A, 6.1B, or 6.1C.
L	A mixture or an article that contains both— (a) an explosive substance; and (b) a substance that— (i) spontaneously combusts, detonates, or deflagrates, when exposed to air, water, oxidising substances, or flammable substances; or (ii) generates a substance that spontaneously combusts, detonates, or deflagrates when exposed to air or water.
N	An article containing only extremely insensitive detonating substances as defined in the criteria for subclass 1.6.
S **Note:** see regulation 6(3) for cases where category S applies.	A substance, or an article, that meets the criteria of either paragraph 16.6.1.4.6 or paragraph 16.6.1.4.7(a)(i) of the UN Manual of Tests and Criteria when tested as prescribed in Test Series 6 type (c) of paragraph 16.6 of that manual.

Schedule 2
Classification criteria for flammable substances

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1 Interpretation

In this schedule, unless the context otherwise requires,—

aerosol has the meaning set out in item 2.1.2A of the table in clause 2

flammable ingredient has the same meaning as it has in Schedule 2 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

flammable range has the same meaning as it has in Schedule 2 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

flash point has the same meaning as it has in regulation 3 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

IBP (initial boiling point) means the temperature at which a flammable substance begins to boil at a pressure of 101.3 kilopascals absolute

self-reactive substance means a substance that does not meet the criteria for classes 1 or 5, but—

(a) has a SADT less than or equal to 75 degrees Celsius in a quantity of 50 kilograms and has a heat of decomposition greater than or equal to 300 joules per gram; or

(b) is listed in paragraph 2.4.2.3.2.3 of the UN Model Regulations as having a class or division of self-reactive.

2 Table of hazard classifications

Flammable substances are classified according to the criteria set out in the table in this schedule. The hazard classifications are set out in the first column and the criteria for each hazard classification are set out in the second column.

Table of hazard classifications

Hazard classification	Criteria for each hazard classification
2.1.1A—*Flammable gases: high hazard*	(a) a gas or gas mixture that, at 20 degrees Celsius and at a pressure of 101.3 kilopascals absolute, is ignitable when in a mixture of 13% or less by volume with air; or (b) a gas or gas mixture that, at 20 degrees Celsius and at a pressure of 101.3 kilopascals absolute, has a flammable range with air of at least 12 percentage points regardless of the lower flammability limit, where flammability is determined when tested in accordance with the test procedure for determining the flammability of gases and gas mixtures as prescribed in section 5 ISO 10156:1996.

Hazard classification	Criteria for each hazard classification
2.1.1B—*Flammable gases: medium hazard*	A gas or gas mixture, other than one of high hazard, that is sufficiently flammable to be capable of ignition when mixed with air in a proportion within a flammable range at 20 degrees Celsius and at a pressure of 101.3 kilopascals absolute.
2.1.2A—*Flammable aerosols*	An aerosol comprising 45% or more by mass of flammable ingredients. An **aerosol** is a substance packed under pressure in a way that is designed to be released as solid or liquid particles in suspension in a gas, as a foam, paste, or powder, or in a liquid or in a gaseous state.
3.1A—*Flammable liquids: very high hazard*	A flammable liquid that has a flash point of less than 23 degrees Celsius and has an IBP of less than or equal to 35 degrees Celsius.
3.1B—*Flammable liquid: high hazard*	A flammable liquid that has a flash point of less than 23 degrees Celsius and has an IBP of greater than 35 degrees Celsius.
3.1C—*Flammable liquids: medium hazard*	A flammable liquid that has a flash point of greater than or equal to 23 degrees Celsius, but less than or equal to 60 degrees Celsius.
3.1D—*Flammable liquids: low hazard*	A flammable liquid that has a flash point of greater than 60 degrees Celsius, but less than or equal to 93 degrees Celsius.
3.2A—*Liquid desensitised explosives: high hazard*	(a) a substance that— (i) is listed in paragraph 2.3.1.4 of the UN Model Regulations as a liquid desensitised explosive; and (ii) is assigned Packing Group I in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations; or (b) a liquid desensitised explosive that— (i) is formed from an explosive of Class 1 by adding a desensitising agent to form a liquid substance that no longer meets the threshold for Class 1; and (ii) is not listed in the UN Model Regulations, and is not assigned a packing group in the UN Model Regulations.
3.2B—*Liquid desensitised explosives: medium hazard*	A substance that— (a) is listed in paragraph 2.3.1.4 of the UN Model Regulations as a liquid desensitised explosive; and (b) is assigned Packing Group II in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations.
3.2C—*Liquid desensitised explosives: low hazard*	A substance that— (a) is listed in paragraph 2.3.1.4 of the UN Model Regulations as a liquid desensitised explosive; and (b) is assigned Packing Group III in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations.

Hazard classification	Criteria for each hazard classification
4.1.1A—*Readily combustible solids and solids that may cause fire through friction: medium hazard*	(a) a substance (other than a metal powder) that, when tested as prescribed in the burning rate test of Test Series N.1, paragraph 33.2.1.4 of the UN Manual of Tests and Criteria, has a burning time of less than 45 seconds and the flame passes the wetted zone; or (b) a powder of metal or metal alloys that produces a zone of reaction that spreads over the whole length of the sample in 5 minutes or less when tested as prescribed in the burning rate test of Test Series N.1, paragraph 33.2.1.4 of the UN Manual of Tests and Criteria; or (c) a substance that is listed in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations with the serial number UN 1343; or (d) any other substance that may cause fire through friction and where, when tested as prescribed in Test Series 3 type (b), paragraph 13.5 of the UN Manual of Tests and Criteria, the amount of friction required to cause ignition is less than 120% of that for any of the substances in paragraph (c).
4.1.1B—*Readily combustible solids and solids that may cause fire through friction: low hazard*	(a) a substance (other than a metal powder) that, when tested as prescribed in the burning rate test of Test Series N.1, paragraph 33.2.1.4 of the UN Manual of Tests and Criteria, has a burning time of less than 45 seconds and the wetted zone stops the flame propagation for at least 4 minutes; or (b) a powder of metal or metal alloys that, when tested as prescribed in the burning rate test of Test Series N.1, paragraph 33.2.1.4 of the UN Manual of Tests and Criteria, produces a reaction which spreads over the whole length of the sample in more than 5 minutes, but not more than 10 minutes; or (c) a substance that is listed in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations with one of the following UN serial numbers: UN 1331, UN 1944, UN 1945, or UN 2254; or (d) any other substance that may cause fire through friction and where, when tested as prescribed in Test Series 3 type (b), paragraph 13.5 of the UN Manual of Tests and Criteria, the amount of friction required to cause ignition is less than 120% of that for any of the substances in paragraph (c).
4.1.2A—*Self-reactive substances: type A*	(a) a substance that— (i) propagates a detonation when tested as prescribed in Test Series A; and (ii) propagates a detonation when detonated under confinement as prescribed in Test Series B; or (b) a substance that— (i) propagates a detonation when tested as prescribed in Test Series A; and

Hazard classification	Criteria for each hazard classification
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) propagates a rapid deflagration when ignited under confinement as prescribed in Test Series D; or
	(c) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) propagates a rapid deflagration when ignited under confinement as prescribed in Test Series D; or
	(d) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) propagates a rapid deflagration when ignited under confinement as prescribed in Test Series D.
4.1.2B—*Self-reactive substances: type B*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 4.1 and is designated as type B; or
	(b) a substance that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(v) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(vi) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(c) a substance that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and

Hazard classification	Criteria for each hazard classification
	(iii) either propagates a slow deflagration or does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(d) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits a violent effect when heated under confinement as prescribed in Test Series E; and
	(v) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(e) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) either propagates a slow deflagration or does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(f) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(g) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and

Hazard classification	Criteria for each hazard classification
	(ii) propagates a slow deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(h) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G.
4.1.2C—*Self-reactive substances: type C*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 4.1 and is designated as type C; or
	(b) a substance that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(v) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(vi) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(c) a substance that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) either propagates a slow deflagration or does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and

Hazard classification	Criteria for each hazard classification
	(v) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(d) a substance that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(v) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(e) a substance that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) either propagates a slow deflagration or does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iv) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(f) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(g) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and

Hazard classification	Criteria for each hazard classification
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(h) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow or no deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(i) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(j) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(k) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and

Hazard classification	Criteria for each hazard classification
	(iv) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(l) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G.
4.1.2D—*Self-reactive substances: type D* **Note:** see regulation 7(4)(a) for cases where category D applies.	(a) a substance that is listed in the UN Model Regulations as having a class or division of 4.1 and is designated as type D; or
	(b) a substance that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow or no deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(c) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(d) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits medium effect when heated under confinement as prescribed in Test Series E.
4.1.2E—*Self-reactive substances: type E*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 4.1 and is designated as type E; or
	(b) a substance that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and

Hazard classification	Criteria for each hazard classification
	(iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and (iv) is not intended to be stored or transported in bulk, or no data is available for Test Series F; or
	(c) a substance that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and (iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and (iv) is intended to be stored or transported in bulk; and (v) exhibits a "not low" explosive power when tested as prescribed in Test Series F, or no data is available for Test Series F.
4.1.2F—*Self-reactive substances: type F*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 4.1 and is designated as type F; or
	(b) a substance that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and (iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and (iv) when tested for bulk containers, exhibits a low effect when heated under confinement as prescribed in Test Series E; and (v) when tested for bulk containers, exhibits no explosive power when tested as prescribed in Test Series F; or
	(c) a substance that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and (iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and (iv) is intended to be stored or transported in bulk; and (v) exhibits low explosive power when tested as prescribed in Test Series F; or
	(d) a substance that—

Hazard classification	Criteria for each hazard classification
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and (iii) exhibits no effect when heated under confinement as prescribed in Test Series E, including when assessed for bulk containers; and (iv) exhibits no explosive power when tested as prescribed in Test Series F; and (v) has a SADT less than 60 degrees Celsius for a 50 kg quantity of the substance or, if the substance is a mixture that contains a solvent or desensitising agent, that solvent or desensitising agent has a boiling point less than 150 degrees Celsius.
4.1.2G—*Self-reactive substances: type G*	A substance that— (a) does not propagate a detonation when tested as prescribed in Test Series A; and (b) does not propagate a deflagration when tested as prescribed in Test Series C; and (c) exhibits no effect when heated under confinement as prescribed in Test Series E, including when assessed for bulk containers; and (d) exhibits no explosive power when tested as prescribed in Test Series F; and (e) has a SADT greater than or equal to 60 degrees Celsius for a 50 kg quantity of the substance and, if the substance is a mixture that contains a solvent or desensitising agent, that solvent or desensitising agent is a liquid that has a boiling point greater than or equal to 150 degrees Celsius.
4.1.3A—*Solid desensitised explosives: high hazard*	(a) a substance that is listed in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations with one of the following UN serial numbers: UN 1310, UN 1320, UN 1321, UN 1322, UN 1336, UN 1337, UN 1344, UN 1347, UN 1348, UN 1349, UN 1354, UN 1356, UN 1357, UN 1517, UN 1571, UN 2852, or UN 3317; or (b) a solid desensitised explosive that is formed from an explosive of Class 1 by adding a desensitising agent to form a solid substance that no longer meets the threshold for Class 1.
4.1.3B—*Solid desensitised explosives: medium hazard*	(a) a substance that is listed in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations with one of the following UN serial numbers: UN 2555, UN 2556, UN 2557, UN 2907, UN 3319, or UN 3344; or

Hazard classification	Criteria for each hazard classification
	(b) a substance listed in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations with UN serial number UN 3242.
4.1.3C—*Solid desensitised explosives: low hazard*	A substance that is listed in the Dangerous Goods List in Chapter 3.2 of the UN Model Regulations with one of the following UN serial numbers: UN 2956, UN 3241, or UN 3251.
4.2A—*Spontaneously combustible substances: pyrophoric substances: high hazard*	(a) a solid substance that does not meet the criteria for subclass 4.1.2, but ignites within 5 minutes on contact with air when tested as prescribed in Test Series N.2, paragraph 33.3.1.4 of the UN Manual of Tests and Criteria; or (b) a substance that does not meet the criteria for subclass 4.1.2, but is a liquid and— (i) ignites when tested as prescribed in Test Series N.3, paragraph 33.3.1.5.3.1 of the UN Manual of Tests and Criteria; or (ii) ignites or chars the filter paper when tested as prescribed in paragraph 33.3.1.5.3.2 of that test.
4.2B—*Spontaneously combustible substances: self-heating substances: medium hazard*	A substance that does not meet the criteria for subclass 4.1.2, but meets the criteria of paragraph 33.3.1.6.4.3 when tested as prescribed in Test Series N.4, paragraph 33.3.1.6 of the UN Manual of Tests and Criteria.
4.2C—*Spontaneously combustible substances: self-heating substances: low hazard*	(a) a substance that does not meet the criteria for subclass 4.1.2, but is in a volume of more than 3 cubic metres and gives a positive result when tested using a 100 millimetre sample cube at 140 degrees Celsius as prescribed in Test Series N.4, paragraph 33.3.1.6 of the UN Manual of Tests and Criteria; or (b) a substance that does not meet the criteria for subclass 4.1.2, but is in a volume of more that 450 litres and gives a positive result when tested using a 100 millimetre sample cube at 140 degrees Celsius, and gives a positive result when tested using a 100 millimetre sample cube at 120 degrees Celsius, which tests are as prescribed in Test Series N.4, paragraph 33.3.1.6 of the UN Manual of Tests and Criteria; or (c) a substance that does not meet the criteria for subclass 4.1.2, but gives a positive result when tested using a 100 millimetre sample cube at 140 degrees Celsius, and gives a positive result when tested using a 100 millimetre sample cube at 100 degrees Celsius, which tests are as prescribed in Test Series N.4, paragraph 33.3.1.6 of the UN Manual of Tests and Criteria.
4.3A—*Solids that emit flammable gas when in contact with water: high hazard*	(a) a substance that emits a gas that ignites when a small quantity of the substance is brought into contact with water as prescribed in Test Series N.5, paragraph 33.4.1.4 of the UN Manual of Tests and Criteria; or

Hazard classification	Criteria for each hazard classification
	(b) a substance that reacts readily with water at ambient temperatures so that the rate of evolution of flammable gas is greater than or equal to 10 litres per kilogram of substance over any 1 minute when tested as prescribed in Test Series N.5, paragraph 33.4.1.4 of the UN Manual of Tests and Criteria.
4.3B—*Solids that emit flammable gas when in contact with water: medium hazard*	A substance that reacts readily with water at ambient temperatures so that the maximum rate of evolution of flammable gas is greater than or equal to 20 litres of gas per kilogram of substance per hour, but less than 10 litres per kilogram per minute, when tested as prescribed in Test Series N.5, paragraph 33.4.1.4 of the UN Manual of Tests and Criteria.
4.3C—*Solids that emit flammable gas when in contact with water: low hazard*	A substance that reacts slowly with water at ambient temperatures so that the maximum rate of evolution of flammable gas is equal to or greater than 1 litre of gas per kilogram of substance per hour, but less than 20 litres per kilogram per hour, when tested as prescribed in Test Series N.5, paragraph 33.4.1.4 of the UN Manual of Tests and Criteria.

Schedule 3
Classification criteria for oxidising substances and organic peroxides

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1 Form of substance for testing

If any solid substance is tested for the purposes of determining its hazard classification, the result must be determined using either—

(a) the finest particle form in which that substance is reasonably capable of being used or rendered; or

(b) if it is likely or known that more than 10% of the mass of the substance will crumble into a finer particle form, then that finer form.

2 Table of hazard classifications

Oxidising substances are classified according to the criteria set out in the table in this schedule. The hazard classifications are set out in the first column and the criteria for each hazard classification are set out in the second column.

Table of hazard classifications

Hazard classification	Criteria for each hazard classification
5.1.1A—*Oxidising substances that are liquids or solids: high hazard*	(a) a substance that is listed in the UN Model Regulations as having a class, division, or subsidiary risk of 5.1, and is assigned Packing Group I; or (b) a solid that when mixed with dried cellulose forms a mixture that either spontaneously ignites or exhibits a mean burning time less than the mean burning time of a 3:2 reference mixture by mass of potassium bromate and cellulose under the same conditions when tested as prescribed in Test Series O.1, paragraph 34.4.1 of the UN Manual of Tests and Criteria; or (c) a liquid that when mixed with dry cellulose forms a mixture that either spontaneously ignites or exhibits a mean pressure rise time less than the mean pressure rise time of a 1:1 reference mixture by mass of 50% perchloric acid and cellulose under the same conditions when tested as prescribed in Test Series O.2, paragraph 34.4.2 of the UN Manual of Tests and Criteria.
5.1.1B—*Oxidising substances that are liquids or solids: medium hazard*	(a) a substance that is listed in the UN Model Regulations as having a class, division, or subsidiary risk of 5.1, and is assigned Packing Group II; or (b) a solid that does not meet the criteria of category A and that when mixed with dry cellulose forms a mixture that exhibits a mean burning time equal to or less than the mean burning time of a 2:3 reference mixture by mass of potassium bromate and cellulose under the same conditions when tested as prescribed in Test Series O.1, paragraph 34.4.1 of the UN Manual of Tests and Criteria; or

Hazard classification	Criteria for each hazard classification
	(c) a liquid that does not meet the criteria of category A and that when mixed with dry cellulose forms a mixture that exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 reference mixture by mass of 40% aqueous sodium chlorate solution and cellulose under the same conditions when tested as prescribed in Test Series O.2, paragraph 34.4.2 of the UN Manual of Tests and Criteria.
5.1.1C—*Oxidising substances that are liquids or solids: low hazard*	(a) a substance that is listed in the UN Model Regulations as having a class, division, or subsidiary risk of 5.1, and is assigned Packing Group III; or (b) a solid that does not meet the criteria of category A or category B and that when mixed with dry cellulose forms a mixture that exhibits a mean burning time equal to or less than the mean burning time of a 3:7 reference mixture by mass of potassium bromate and cellulose under the same conditions when tested as prescribed in Test Series O.1, paragraph 34.4.1 of the UN Manual of Tests and Criteria; or (c) a liquid that does not meet the criteria of category A or category B and that when mixed with dry cellulose forms a mixture that exhibits a mean pressure rise time less than or equal to the mean pressure rise time of a 1:1 reference mixture by mass of 65% aqueous nitric acid and cellulose under the same conditions when tested as prescribed in Test Series O.2, paragraph 34.4.2 of the UN Manual of Tests and Criteria.
5.1.2A—*Oxidising substances that are gases*	(a) a gas that is listed in the UN Model Regulations as having a class, division, or subsidiary risk of 5.1; or (b) a gas that causes or contributes to combustion of other material at a faster rate than air when tested in accordance with the test procedure for determining the oxidising power of gases and gas mixtures as set out in section 5 of ISO 10156:1996.
5.2A—*Organic peroxides: type A*	(a) an organic peroxide that— (i) propagates a detonation when tested as prescribed in Test Series A; and (ii) propagates a detonation when detonated under confinement as prescribed in Test Series B; or (b) an organic peroxide that— (i) propagates a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and (iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and (iv) propagates a rapid deflagration when ignited under confinement as prescribed in Test Series D; or

Hazard classification	Criteria for each hazard classification
	(c) an organic peroxide that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) propagates a rapid deflagration when ignited under confinement as prescribed in Test Series D; or
	(d) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) propagates a rapid deflagration when ignited under confinement as prescribed in Test Series D.
5.2B—*Organic peroxides: type B*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 5.2 and is designated as type B; or
	(b) an organic peroxide that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(v) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(vi) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(c) an organic peroxide that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) either propagates a slow deflagration or does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or

Hazard classification	Criteria for each hazard classification
	(d) an organic peroxide that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(e) an organic peroxide that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) either propagates a slow deflagration or no deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(f) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(vi) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(g) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(h) an organic peroxide that—

Hazard classification	Criteria for each hazard classification
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) undergoes a thermal explosion when heated under confinement as prescribed in Test Series G.
5.2C—*Organic peroxides: type C*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 5.2 and is designated as type C; or
	(b) an organic peroxide that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(v) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(vi) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(c) an organic peroxide that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a slow deflagration or no deflagration when tested as prescribed in Test Series C; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(d) an organic peroxide that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and

Hazard classification	Criteria for each hazard classification
	(iii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iv) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(v) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(e) an organic peroxide that—
	(i) propagates a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a detonation when detonated under confinement as prescribed in Test Series B; and
	(iii) propagates a slow deflagration or no deflagration when tested as prescribed in Test Series C; and
	(iv) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(f) an organic peroxide that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(g) an organic peroxide that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(h) an organic peroxide that—
	(i) propagates a partial detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow or no deflagration when tested as prescribed in Test Series C; and

Hazard classification	Criteria for each hazard classification
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(i) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(v) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(j) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a rapid deflagration when tested as prescribed in Test Series C; and
	(iii) does not propagate a rapid deflagration when ignited under confinement as prescribed in Test Series D; and
	(iv) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or
	(k) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) propagates a slow deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and
	(iv) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G; or
	(l) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits violent effect when heated under confinement as prescribed in Test Series E; and

Hazard classification	Criteria for each hazard classification
	(iv) does not undergo a thermal explosion when heated under confinement as prescribed in Test Series G.
5.2D—*Organic peroxides: type D* **Note:** see regulation 8(3)(a) for cases where category D applies.	(a) a substance that is listed in the UN Model Regulations as having a class or division of 5.2 and is designated as type D; or (b) an organic peroxide that— (i) propagates a partial detonation when tested as prescribed in Test Series A; and (ii) propagates a slow or no deflagration when tested as prescribed in Test Series C; and (iii) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or (c) an organic peroxide that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) propagates a slow deflagration when tested as prescribed in Test Series C; and (iii) exhibits medium effect, low effect, or no effect when heated under confinement as prescribed in Test Series E; or (d) an organic peroxide that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and (iii) exhibits medium effect when heated under confinement as prescribed in Test Series E.
5.2E—*Organic peroxides: type E*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 5.2 and is designated as type E; or (b) an organic peroxide that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and (iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and (iv) is not intended to be stored or transported in bulk, or has no data available for Test Series F; or (c) an organic peroxide that— (i) does not propagate a detonation when tested as prescribed in Test Series A; and (ii) does not propagate a deflagration when tested as prescribed in Test Series C; and

Hazard classification	Criteria for each hazard classification
	(iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and
	(iv) is intended to be stored or transported in bulk, and displays a "not low" explosive power when tested as prescribed in Test Series F.
5.2F—*Organic peroxides: type F*	(a) a substance that is listed in the UN Model Regulations as having a class or division of 5.2 and is designated as type F; or
	(b) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and
	(iv) when tested for bulk containers, exhibits low effect when heated under confinement as prescribed in Test Series E; and
	(v) when tested for bulk containers, displays no explosive power when tested as prescribed in Test Series F; or
	(c) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits low effect, or no effect, when heated under confinement as prescribed in Test Series E; and
	(iv) is intended to be stored or transported in bulk, and exhibits low explosive power when tested as prescribed in Test Series F; or
	(d) an organic peroxide that—
	(i) does not propagate a detonation when tested as prescribed in Test Series A; and
	(ii) does not propagate a deflagration when tested as prescribed in Test Series C; and
	(iii) exhibits no effect when heated under confinement as prescribed in Test Series E, including when it is assessed for bulk containers; and
	(iv) exhibits no explosive power when tested as prescribed in Test Series F; and
	(v) has a SADT less than 60 degrees Celsius for a 50 kg quantity of the substance or, if the substance is a mixture that contains a solvent or desensitising agent, that solvent or

Hazard classification	Criteria for each hazard classification
	desensitising agent is not an organic liquid with a boiling point greater than or equal to 150 degrees Celsius.
5.2G—*Organic peroxides: type G*	An organic peroxide that— (a) does not propagate a detonation when tested as prescribed in Test Series A; and (b) does not propagate a deflagration when tested as prescribed in Test Series C; and (c) exhibits no effect when heated under confinement as prescribed in Test Series E, including when it is assessed for bulk containers; and (d) has no explosive power when tested as prescribed in Test Series F; and (e) has an SADT greater than or equal to 60 degrees Celsius for a 50 kg quantity of the substance and, if the substance is a liquid mixture that contains a solvent or desensitising agent, that solvent or desensitising agent is an organic liquid that has a boiling point greater than or equal to 150 degrees Celsius.

Schedule 4
Classification criteria for toxic substances

r 9

1 Interpretation

In this schedule, unless the context otherwise requires,—

developmental effect has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

dust or **mist** has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

expert has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

genotoxic effect has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

LC_{50} means the median lethal concentration, being a statistically derived concentration of a substance that can be expected to cause death in 50% of animals

LD_{50} has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

limited evidence in animals, in relation to a substance, means data that indicate a carcinogenic effect after exposure to the substance, but that are limited because—

(a) the evidence of carcinogenicity is restricted to a single experiment; or

(b) there are unresolved questions regarding the adequacy of the design, or the conduct or interpretation of the study; or

(c) the substance increases the incidence only of benign tumours, or of lesions of uncertain neoplastic potential, or of tumours that may occur spontaneously in high incidence in certain strains of animal

limited evidence in humans, in relation to a substance, means a positive correlation has been observed between exposure to the substance and the development of human cancer, where a causal relationship is credible, but where chance, bias, or confounding cannot be ruled out with reasonable confidence

mean Draize score has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

mutagenic effect has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

reliable information has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

reproductive effect has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

sensitisation has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

significant adverse biological effect has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

sufficient evidence in animals, in relation to a substance, means data that indicate a causal relationship between exposure to the substance and—

(a) an increased incidence of malignant tumours, or of a combination of benign and malignant tumours, in—

(i) 2 or more species of animals; or

(ii) 2 or more independent studies in 1 species carried out at different times, in different laboratories, or under different protocols; or

(b) malignant tumours that occur to an unusual degree, having regard to incidence, site, type of tumour, or age at onset in a single study in 1 species

sufficient evidence in humans, in relation to a substance, means a causal relationship has been established between exposure to the substance and the development of human cancer, from which chance, bias, and confounding can be ruled out with reasonable confidence

target organ/systemic toxicity means toxicologically significant effect on the function or morphology of an organ or on the biochemistry or haematology of a human

valid has the same meaning as it has in Schedule 4 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

2 Table of hazard classifications

Toxic substances are classified according to the criteria set out in the table in this schedule. The hazard classifications are set out in the first column and the criteria for each hazard classification are set out in the second column.

Table of hazard classifications

Hazard classification	Criteria for each hazard classification
6.1A—*Substances that are acutely toxic*	(a) a substance for which data indicate an oral LD_{50} less than or equal to 5 milligrams of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the oral route; or (b) a substance for which data indicate a dermal LD_{50} less than or equal to 50 milligrams of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the dermal route; or (c) a substance for which data indicate an inhalation LC_{50} less than or equal to 100 parts per million of the substance in air as a result of acute exposure of animals

Hazard classification	Criteria for each hazard classification
	to the substance by the inhalation route, where the substance is a gas; or
	(d) a substance for which data indicate an inhalation LC_{50} less than or equal to 0.5 milligrams of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a vapour; or
	(e) a substance for which data indicate an inhalation LC_{50} less than or equal to 0.05 milligrams of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a dust or mist.
6.1B—*Substances that are acutely toxic*	(a) a substance for which data indicate an oral LD_{50} greater than 5 milligrams, but less than or equal to 50 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the oral route; or
	(b) a substance for which data indicate a dermal LD_{50} greater than 50 milligrams, but less than or equal to 200 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the dermal route; or
	(c) a substance for which data indicate an inhalation LC_{50} greater than 100 parts per million, but less than or equal to 500 parts per million, of the substance in air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a gas; or
	(d) a substance for which data indicate an inhalation LC_{50} greater than 0.5 milligrams, but less than or equal to 2.0 milligrams, of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a vapour; or
	(e) a substance for which data indicate an inhalation LC_{50} greater than 0.05 milligrams, but less than or equal to 0.5 milligrams, of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a dust or mist.
6.1C—*Substances that are acutely toxic*	(a) a substance for which data indicate an oral LD_{50} greater than 50 milligrams, but less than or equal to 300 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the oral route; or
	(b) a substance for which data indicate a dermal LD_{50} greater than 200 milligrams, but less than or equal to 1 000 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the dermal route; or
	(c) a substance for which data indicate an inhalation LC_{50} greater than 500 parts per million, but less than or equal to 2 500 parts per million, of the substance in air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a gas; or

Hazard classification	Criteria for each hazard classification
	(d) a substance for which data indicate an inhalation LC_{50} greater than 2.0 milligrams, but less than or equal to 10 milligrams, of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a vapour; or
	(e) a substance for which data indicate an inhalation LC_{50} greater than 0.5 milligrams, but less than or equal to 1.0 milligrams, of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a dust or mist.
6.1D—*Substances that are acutely toxic*	(a) a substance for which data indicate an oral LD_{50} greater than 300 milligrams, but less than or equal to 2 000 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the oral route; or
	(b) a substance for which data indicate a dermal LD_{50} greater than 1 000 milligrams, but less than or equal to 2 000 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by the dermal route; or
	(c) a substance for which data indicate an inhalation LC_{50} greater than 2 500 parts per million, but less than or equal to 5 000 parts per million, of the substance in air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a gas; or
	(d) a substance for which data indicate an inhalation LC_{50} greater than 10 milligrams, but less than or equal to 20 milligrams, of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a vapour; or
	(e) a substance for which data indicate an inhalation LC_{50} greater than 1.0 milligrams, but less than or equal to 5 milligrams, of the substance per litre of air as a result of acute exposure of animals to the substance by the inhalation route, where the substance is a dust or mist.
6.1E—*Substances that are acutely toxic*	(a) a substance for which data indicate an LD_{50} greater than 2 000 milligrams, but less than or equal to 5 000 milligrams, of the substance per kilogram of bodyweight as a result of acute exposure of animals to the substance by oral or dermal routes; or
	(b) a substance for which assignment to a more hazardous category is not warranted and if—
	(i) data for the substance indicate to an expert evidence in humans of significant acute toxic effects as a result of acute exposure to the substance; or
	(ii) data indicate any mortality, when tested up to category D values by the oral, dermal, or inhalation routes as a result of acute exposure to the substance; or

Hazard classification	Criteria for each hazard classification
	(iii) clinical signs, other than diarrhoea, piloerection, or an ungroomed appearance, indicate to an expert a significant adverse biological effect when tested up to category D values by the oral, dermal, or inhalation routes as a result of acute exposure to the substance; or
	(iv) reliable information, including reliable information from animal studies other than those from which LD_{50} data was obtained to classify the substance in hazard classification 6.1E, indicates to an expert the potential for significant acute toxic effects in humans as a result of acute exposure to the substance.
6.3A—*Substances that are irritating to the skin*	(a) a substance for which reversible adverse effects on dermal tissue are evidenced by data indicating a mean Draize score greater than or equal to 2.3, but less than or equal to 4.0, for either erythema or eschar or oedema as a result of exposure to the substance; or
	(b) a substance for which data indicate skin inflammation, including alopecia over a limited area, hyperkeratosis, hyperplasia, and scaling, that persists for 14 days following exposure to the substance in at least 66% of exposures as a result of exposure to the substance; or
	(c) a substance for which data indicate a pronounced variability of adverse effects between and within test exposures, even though the effects of exposure to the substance do not meet the criteria in paragraph (a) or paragraph (b), or for hazard classification 6.3B.
6.3B—*Substances that are mildly irritating to the skin*	A substance for which reversible adverse effects on dermal tissue are evidenced by data indicating a mean Draize score greater than or equal to 1.5, but less than 2.3, for either of the skin irritation effects known as erythema or oedema as a result of exposure to the substance.
6.4A—*Substances that are irritating to the eye*	A substance for which adverse effects on ocular tissue as a result of exposure to the substance are evidenced by data indicating—
	(a) a mean Draize score greater than or equal to 1, but less than 3, for corneal opacity, where the effects reverse within 21 days after exposure to the substance; or
	(b) a mean Draize score greater than or equal to 1, but less than 1.5, for iritis, where the effects reverse within 21 days after exposure to the substance; or
	(c) a mean Draize score greater than or equal to 2 for conjunctival redness, where the effects reverse within 21 days after exposure to the substance; or
	(d) a mean Draize score greater than or equal to 2 for conjunctival oedema (chemosis), where the effects reverse within 21 days after exposure to the substance.
6.5A—*Substances that are respiratory sensitisers*	(a) a substance for which data indicate to an expert positive respiratory sensitisation effects in a relevant animal test as a result of exposure to the substance; or

Hazard classification	Criteria for each hazard classification
	(b) a substance for which data indicate to an expert evidence in humans of specific respiratory hypersensitivity (including asthma, rhinitis, and alveolitis) with the clinical character of an allergic reaction as a result of exposure to the substance.
6.5B—*Substances that are contact sensitisers*	(a) a substance for which data indicate to an expert positive contact sensitisation effects in a reliable animal test either— (i) equal to or greater than 30% sensitisation response in an adjuvant type test method as a result of exposure to the substance; or (ii) equal to or greater than 15% sensitisation response in a non-adjuvant type test method as a result of exposure to the substance; or
	(b) a substance for which data indicate to an expert evidence in humans of sensitisation by skin contact as a result of exposure to the substance.
6.6A—*Substances that are known or presumed human mutagens*	(a) a substance for which data indicate a causal relationship between exposure of humans to the substance and the induction of heritable mutagenic effects in the germ cells of humans; or
	(b) a substance for which data indicate evidence of heritable mutagenic effects in the germ cells of mammals as a result of *in vivo* exposure to the substance; or
	(c) a substance for which data indicate, as a result of *in vivo* exposure to the substance,— (i) evidence of mutagenic effects in the somatic cells of mammals; and (ii) evidence that the substance has the potential to cause mutagenic effects in germ cells of mammals (including evidence of genotoxic effects in germ cells or evidence of the ability of the substance or its metabolites to interact with the genetic material of germ cells); or
	(d) a substance for which data indicate evidence of mutagenic effects in the germ cells of humans as a result of exposure to the substance without evidence of transmission to progeny (including an increase in the frequency of aneuploidy in sperm cells of exposed humans).
6.6B—*Substances that are suspected human mutagens*	(a) a substance for which data indicate evidence of mutagenic effects in the somatic cells of mammals as a result of *in vivo* exposure to the substance; or
	(b) a substance for which data indicate evidence of genotoxic effects in the somatic cells of mammals as a result of *in vivo* exposure to the substance, and evidence of mutagenic effects as a result of *in vitro* exposure to the substance; or
	(c) a substance for which data indicate evidence of mutagenic effects as a result of *in vitro* exposure of mammalian cells to the substance, where there is a

Hazard classification	Criteria for each hazard classification
	structure activity relationship to known germ cell mutagens (which relationship is a significant correlative relationship between the chemical structure of the substance and the chemical structure of a known germ cell mutagen, where the relationship relates to that germ cell mutagen activity).
6.7A—*Substances that are known or presumed human carcinogens*	(a) a substance for which data indicate sufficient evidence in humans of a causal relationship between exposure to the substance and the development of cancer in humans; or (b) a substance for which data indicate sufficient evidence in animals of a causal relationship between exposure to the substance and an increased incidence of tumours; or (c) a substance for which data indicate— (i) limited evidence in humans of a positive correlation between exposure to the substance and the development of human cancer; and (ii) limited evidence in animals that exposure to the substance may lead to an increased incidence of tumours.
6.7B—*Substances that are suspected human carcinogens*	A substance for which data indicate limited evidence in humans or limited evidence in animals that exposure to the substance may lead to the development of cancer or an increased incidence of tumours, where the strength and weight of the evidence indicate to an expert that the evidence is not sufficient to classify the substance in hazard classification 6.7A.
6.8A—*Substances that are known or presumed human reproductive or developmental toxicants*	(a) a substance for which data indicate evidence of a causal relationship in humans between exposure to the substance and adverse effects on reproductive ability, reproductive capacity, or development; or (b) a substance for which data indicate evidence of an adverse reproductive or adverse developmental effect in animals as a result of exposure to the substance, where that adverse effect occurs either— (i) in the absence of other adverse effects from exposure to the substance; or (ii) in the presence of other adverse effects that occur as a result of exposure to the substance, where the adverse reproductive or adverse developmental effect is considered by an expert not to be a secondary non-specific consequence of those other adverse effects.
6.8B—*Substances that are suspected human reproductive or developmental toxicants*	A substance for which data indicate evidence from human epidemiological or animal studies of an adverse reproductive or adverse developmental effect as a result of exposure to the substance, where— (a) that effect is considered by an expert not to be a secondary non-specific consequence of any other adverse effect; and

Hazard classification	Criteria for each hazard classification
	(b) the strength and weight of the evidence indicate to an expert that the evidence is not sufficient to classify the substance in hazard classification 6.8A.
6.8C—*Substances that produce toxic human reproductive or developmental effects on or via lactation*	(a) a substance for which data from studies of absorption, metabolism, distribution, and excretion of the substance indicate evidence that the substance would be present in potentially toxic levels in human breast milk; or (b) a substance for which data indicate evidence in humans of toxicity to babies during the lactation period as a result of exposure; or (c) a substance for which data from 1 or 2 generation studies indicate evidence of any adverse effect in the offspring of animals due to transfer of the substance in the milk as a result of exposure; or (d) a substance for which data from 1 or 2 generation studies indicate evidence of any adverse effect in the offspring of animals due to any adverse effect on the quality of milk as a result of exposure.
6.9A—*Substances that are toxic to human target organs or systems*	(a) a substance for which data indicate to an expert evidence of a causal relationship between exposure of humans to the substance and the development of target organ/ systemic toxicity that would not result in the substance being classified in any of the subclasses 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, or 6.8; or (b) a substance for which data indicate to an expert evidence of a significant adverse biological effect on the function or morphology of an organ or on the biochemistry or haematology of an organism as a result of exposure to the substance that would not result in the substance being classified in any of subclasses 6.1, 6.3, 6.4, 6.5, 6.6, 6.7, or 6.8, and that are produced at low exposure concentrations and are of relevance to human health.
6.9B—*Substances that are harmful to human target organs or systems*	A substance for which data indicate to an expert evidence of a significant adverse biological effect on the function or morphology of an organ or on the biochemistry or haematology of an organism as a result of exposure to the substance that would not result in the substance being classified in any of subclasses 6.1, 6.3, 6.4, 6.5, 6.6, 6.7 or 6.8, and that are produced at moderate exposure concentrations and are of relevance to human health.

Schedule 5
Classification criteria for corrosive substances

r 10

1 Interpretation

In this schedule, unless the context otherwise requires, **mean Draize score** has the same meaning as it has in Schedule 5 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001.

2 Table of hazard classifications

Corrosive substances are classified according to the criteria set out in the table in this schedule. The hazard classifications are set out in the first column and the criteria for each hazard classification are set out in the second column.

Table of hazard classifications

Hazard classification	Criteria for each hazard classification
8.1A—*Substances that are corrosive to metals*	A substance that corrodes steel type P235 (ISO 9328 (II):1991), steel type SAE 1020, or non-clad aluminium types SAE 7075-T6 or AZ5GU-T6 at a rate exceeding 6.25 millimetres per year at a test temperature of 55 degrees Celsius.
8.2A—*Substances that are corrosive to dermal tissue*	A substance for which data indicate irreversible destruction of dermal tissue, which destruction is visible necrosis through the epidermis and into the dermis, within 1 hour following exposure to the substance for less than or equal to 3 minutes in greater than or equal to 33% of exposures as a result of exposure to the substance.
8.2B—*Substances that are corrosive to dermal tissue*	A substance for which data indicate irreversible destruction of dermal tissue, which destruction is visible necrosis through the epidermis and into the dermis, within 14 days following exposure to the substance for greater than 3 minutes, but not more than 1 hour, in greater than or equal to 33% of exposures as a result of exposure to the substance.
8.2C—*Substances that are corrosive to dermal tissue*	A substance for which data indicate irreversible destruction of dermal tissue, which destruction is visible necrosis through the epidermis and into the dermis, within 14 days following exposure to the substance for greater than 1 hour, but not more than 4 hours, in greater than or equal to 33% of exposures as a result of exposure to the substance.
8.3A—*Substances that are corrosive to ocular tissue*	(a) a substance for which data indicate evidence in at least 33% of exposures of destruction of ocular tissue, being adverse effects on the cornea, iris, or conjunctiva as a result of exposure to the substance that are not expected to reverse or have not fully reversed within 21 days of exposure to the substance; or (b) a substance for which data indicate a mean Draize score greater than or equal to 3 for corneal opacity as a result of exposure to the substance; or

Hazard classification	Criteria for each hazard classification
	(c) a substance for which data indicate a mean Draize score greater than 1.5 for iritis as a result of exposure to the substance.

Schedule 6
Classification criteria for ecotoxic substances

r 11

1 Interpretation

In this schedule, unless the context otherwise requires,—

acute aquatic ecotoxicity value means the lowest value expressed in units of milligrams of a substance per litre of water from—

(a) fish LC_{50} data after a 96-hour exposure period; or

(b) crustacean EC_{50} data after a 48-hour exposure period; or

(c) algal, or other aquatic plant, EC_{50} data after a 72-hour or 96-hour exposure period

BCF has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

bioaccumulative has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

biocidal action has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

BOD_5 has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

chronic aquatic ecotoxicity value means the lowest value expressed in units of milligrams of a substance per litre of water from chronic fish, crustacean, algal, or other aquatic plant NOEC data

COD has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

EC_{50} has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

K_{ow} has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

LC_{50} has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

LD_{50} has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

LOEC has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

MATC has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

NOEC has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

rapidly degradable has the same meaning as it has in Schedule 6 of the Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001

soil DT_{50} means the half-life in soil, which is the time required to reduce the original concentration of the substance in the soil by 50%

soil ecotoxicity value means the lower value expressed in units of milligrams of a substance per kilogram (dry weight) of soil from—

(a) plant or soil invertebrate EC_{50} data after 14 days exposure to the substance; or

(b) data that demonstrate a 25% reduction in soil micro-organism respiration or nitrification after 28 days exposure to the substance.

2 Table of hazard classifications

Ecotoxic substances are classified according to the criteria set out in the table in this schedule. The hazard classifications are set out in the first column and the criteria for each hazard classification are set out in the second column.

Table of hazard classifications

Hazard classification	Criteria for each hazard classification
9.1A—*Substances that are very ecotoxic in the aquatic environment*	A substance for which data indicate an acute aquatic ecotoxicity value less than or equal to 1 milligram of the substance per litre of water.
9.1B—*Substances that are ecotoxic in the aquatic environment*	Unless the chronic aquatic ecotoxicity value is greater than 1 milligram of the substance per litre of water, a substance— (a) for which data indicate an acute aquatic ecotoxicity value greater than 1 milligram, but less than or equal to 10 milligrams, of the substance per litre of water; and (b) that is not rapidly degradable or is bioaccumulative, or is not rapidly degradable and is bioaccumulative.
9.1C—*Substances that are harmful in the aquatic environment*	Unless the chronic aquatic ecotoxicity value is greater than 1 milligram of the substance per litre of water, a substance— (a) for which data indicate an acute aquatic ecotoxicity value greater than 10 milligrams, but less than or equal to 100 milligrams, of the substance per litre of water; and (b) that is not rapidly degradable or is bioaccumulative, or is not rapidly degradable and is bioaccumulative.
9.1D—*Substances that are slightly harmful to the aquatic environment or are otherwise designed for biocidal action*	(a) a substance for which data indicate that— (i) the acute aquatic ecotoxicity value is greater than 1 milligram per litre of water but less than or equal to 100 milligrams of the substance per litre of water, but does not meet the criteria for hazard classification 9.1B or 9.1C; or (ii) the chronic aquatic ecotoxicity value is less than or equal to 1 milligram of the substance

Hazard classification	Criteria for each hazard classification
	per litre of water, but does not meet the criteria for hazard classification 9.1A, 9.1B, or 9.1C; or (b) a substance that is designed for biocidal action, other than a substance that is designed for biocidal action against a virus, protozoan, bacterium, or an internal organism in humans or in other vertebrates, but does not meet the criteria for any hazard classification in class 9 other than 9.1D; or (c) a substance that is not rapidly degradable and that is bioaccumulative unless the chronic aquatic ecotoxicity value is greater than 1 milligram of the substance per litre of water, but does not meet the criteria for hazard classifications 9.1A, 9.1B, or 9.1C.
9.2A—*Substances that are very ecotoxic in the soil environment*	A substance for which data indicate a soil ecotoxicity value less than or equal to 1 milligram of the substance per kilogram dry weight of soil.
9.2B—*Substances that are ecotoxic in the soil environment*	A substance for which data indicate a soil ecotoxicity value greater than 1 milligram, but less than or equal to 10 milligrams, of the substance per kilogram dry weight of soil.
9.2C—*Substances that are harmful in the soil environment*	A substance for which data indicate a soil ecotoxicity value greater than 10 milligrams, but less than or equal to 100 milligrams, of the substance per kilogram dry weight of soil, where the soil DT_{50} is greater than 30 days.
9.2D—*Substances that are slightly harmful in the soil environment*	A substance for which data indicate a soil ecotoxicity value greater than 10 milligrams, but less than or equal to 100 milligrams, of the substance per kilogram dry weight of soil, where the soil DT_{50} is less than or equal to 30 days.
9.3A—*Substances that are very ecotoxic to terrestrial vertebrates*	(a) a substance for which data indicate an acute avian or mammalian oral or dermal LD_{50} less than or equal to 50 milligrams of the substance per kilogram of bodyweight; or (b) a substance for which data indicate an acute avian or mammalian LC_{50} less than or equal to 500 parts per million of the substance in the diet.
9.3B—*Substances that are ecotoxic to terrestrial vertebrates*	(a) a substance for which data indicate an acute avian or mammalian oral or dermal LD_{50} greater than 50 milligrams, but less than or equal to 500 milligrams, of the substance per kilogram of bodyweight; or (b) a substance for which data indicate an acute avian or mammalian LC_{50} greater than 500 parts per million, but less than or equal to 1 000 parts per million, of the substance in the diet.
9.3C—*Substances that are harmful to terrestrial vertebrates*	(a) a substance for which data indicate an acute avian or mammalian oral or dermal LD_{50} greater than 500 milligrams, but less than or equal to 2 000 milligrams, of the substance per kilogram of bodyweight; or

Hazard classification	Criteria for each hazard classification
	(b) a substance for which data indicate an acute avian or mammalian LC_{50} greater than 1 000 parts per million, but less than or equal to 5 000 parts per million, of the substance in the diet; or (c) a substance for which data indicate a chronic avian or mammalian MATC of less than 100 parts per million of the substance in the diet, but does not meet the criteria for hazard classification 9.3A or 9.3B.
9.4A—*Substances that are very ecotoxic to terrestrial invertebrates*	A substance for which data indicate a contact or oral LD_{50} less than 2 micrograms of substance per terrestrial invertebrate.
9.4B—*Substances that are ecotoxic to terrestrial invertebrates*	A substance for which data indicate a contact or oral LD_{50} greater than or equal to 2 micrograms, but less than 11 micrograms, of substance per terrestrial invertebrate.
9.4C—*Substances that are harmful to terrestrial invertebrates*	A substance for which data indicate a contact or oral LD_{50} greater than or equal to 11 micrograms, but less than or equal to 25 micrograms, of substance per terrestrial invertebrate.

Schedule 7
Tables of hazard classifications

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Table 1—Hazard classifications for class 1, 2, 3, 4, and 5 substances

Property			**Explosiveness**						**Flammability**							**Capacity to oxidise**		
Class			**Class 1**				**Class 2**		**Class 3**				**Class 4**			**Class 5**		
Subclass	**1.1**	**1.2**	**1.3**	**1.4**	**1.5**	**1.6**	**2.1.1**	**2.1.2**	**3.1**	**3.2**	**4.1.1**	**4.1.2**	**4.1.3**	**4.2**	**4.3**	**5.1.1**	**5.1.2**	**5.2**
	Mass explosion	Projection	Fire and minor blast	No signi-ficant hazard	Very insensitive	Extremely insensitive	Gases	Aerosols	Liquids	Liquid desen-sitised explosive	Readily combus-tible	Self reactive	Solid desen-sitised explosive	Spontane-ously combusti-ble	Dangerous when wet	Liquids/ solids	Gases	Organic peroxide
Hazard classification	1.1A						2.1.1A	2.1.2A	3.1A	3.2A	4.1.1A	4.1.2A	4.1.3A	4.2A	4.3A	5.1.1A	5.1.2A	5.2A
	1.1B	1.2B		1.4B			2.1.1B		3.1B	3.2B	4.1.1B	4.1.2B	4.1.3B	4.2B	4.3B	5.1.1B		5.2B
	1.1C	1.2C	1.3C	1.4C					3.1C	3.2C		4.1.2C	4.1.3C	4.2C	4.3C	5.1.1C		5.2C
	1.1D	1.2D		1.4D	1.5D				3.1D			4.1.2D						5.2D
	1.1E	1.2E		1.4E								4.1.2E						5.2E
	1.1F	1.2F	1.3F	1.4F								4.1.2F						5.2F
	1.1G	1.2G	1.3G	1.4G								4.1.2G						5.2G
		1.2H	1.3H															
	1.1J	1.2J	1.3J															
		1.2K	1.3K															
	1.1L	1.2L	1.3L															
						1.6N												
				1.4S														

Table 2—Hazard classifications for class 6, 8, and 9 substances

Property Class	Toxicity Class 6								Corrosiveness Class 8			Ecotoxicity Class 9			
Subclass	**6.1** Acutely toxic	**6.3** Skin irritant	**6.4** Eye irritant	**6.5** Sensitisation	**6.6** Mutagen	**6.7** Carcinogen	**6.8** Reproductive/developmental	**6.9** Target organ/system	**8.1** Metallic corrosive	**8.2** Skin corrosive	**8.3** Eye corrosive	**9.1** Aquatic	**9.2** Soil	**9.3** Terrestrial vertebrate	**9.4** Terrestrial invertebrate
Hazard classification	6.1A	6.3A	6.4A	6.5A	6.6A	6.7A	6.8A	6.9A	8.1A	8.2A	8.3A	9.1A	9.2A	9.3A	9.4A
	6.1B	6.3B		6.5B	6.6B	6.7B	6.8B	6.9B		8.2B		9.1B	9.2B	9.3B	9.4B
	6.1C						6.8C			8.2C		9.1C	9.2C	9.3C	9.4C
	6.1D											9.1D	9.2D		
	6.1E														

Martin Bell,
for Clerk of the Executive Council.

Explanatory note

This note is not part of the regulations, but is intended to indicate their general effect.

These regulations, which come into force on 2 July 2001, prescribe classification criteria for each intrinsic hazardous substance property. The criteria for the classification are set out in *Schedules 1 to 6*, and tables showing all the subclasses and categories are set out in *Schedule 7*.

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Reprints notes

1 General

This is a reprint of the Hazardous Substances (Classification) Regulations 2001 that incorporates all the amendments to those regulations as at the date of the last amendment to them.

2 Legal status

Reprints are presumed to correctly state, as at the date of the reprint, the law enacted by the principal enactment and by any amendments to that enactment. Section 18 of the Legislation Act 2012 provides that this reprint, published in electronic form, has the status of an official version under section 17 of that Act. A printed version of the reprint produced directly from this official electronic version also has official status.

3 Editorial and format changes

Editorial and format changes to reprints are made using the powers under sections 24 to 26 of the Legislation Act 2012. See also http://www.pco.parliament.govt.nz/editorial-conventions/.

4 Amendments incorporated in this reprint

Hazardous Substances (Health and Safety Reform Revocations) Regulations 2017 (LI 2017/233): regulation 4(1)

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