

# The important aspects of the new act

## HAZARDOUS PRODUCTS ACT

The Hazardous Products Act defines hazardous (controlled) products.

Here are the pertinent sections:

### CLASSES OF CONTROLLED PRODUCTS (Interpretation)

32. In this part,

- "ACGIH" means the American Conference of Governmental Industrial Hygienists.
- "acute lethality" means death of animals immediately or within 14 days after a single administration of or exposure to a toxic substance.
- "aerosol container" means a disposable container designed to release pressurized contents by means of a manually operated valve which forms an integral part of the container.
- "ASTM" means the American Society for Testing and Materials.
- "chronic toxic effect" means an adverse effect to the health of a person or test animal that develops (a) over time, following a single exposure to a toxic substance, or (b) from prolonged or repeated exposure to a toxic substance under conditions that do not produce that effect from single exposure.
- "dust" means solid airborne particles that are mechanically generated.
- "flame projection" means the ignited discharge of the pressurized contents of an aerosol container.
- "flashback" means that part of a flame projection that extends from its point of ignition back to the aerosol container.
- "flash point" means the minimum temperature at which a liquid gives off vapor in sufficient concentration to ignite in test circumstances.
- "fume" means solid particles in the air that are generated by condensation from the vapor of a solid material.
- "IARC" means the International Agency for Research in Cancer.
- "mist" means liquid droplets suspended in the air that are produced by the dispersion of a liquid or by the condensation of a vaporized liquid.
- "NACE" means the National Association of Corrosion Engineers (U.S.A.).
- "normal atmospheric pressure" means an absolute pressure of 101.325 kilopascals (1.00 atmosphere) at 20°C (68°F).
- "OECD" means the Organization for Economic Co-operation and Development.
- "OECD Test Guideline" means a test published in the OECD Standard entitled OECD Guidelines for Testing of Chemicals.
- "respiratory tract sensitization" means the development in a person who is not atopic of severe asthma-like symptoms on exposure to a substance to which the person has been exposed.
- "skin sensitization" means an immunologically-mediated cutaneous reaction in a person who is not atopic or in an animal that is not atopic on exposure to a substance to which the person or animal has been exposed.
- "statistically significant" means shown by statistical procedures to have a high probability of being due to something other than chance.
- "vapor" means the gaseous form of a substance that is found in a solid or liquid state at normal atmospheric pressure.

### Manner of Establishing Classification

33. (1) For the purpose of establishing that a product, material or substance is included in a class listed in Schedule II of the Act or falls into a division of a class, the supplier shall use, subject to subsection (2),

(a) results from testing that he has carried out with respect to the product, material or substance in accordance with sections 34 to 66, as applicable; or

(b) evaluation and scientific judgment based on test results with respect to

(i) the product, material or substance, or

(ii) where appropriate, a product, material or substance that has similar properties.

(2) For the purpose of establishing that a product, material or substance is or is not included in Class D (Poisonous and Infectious Material) the supplier may use information of which the supplier is aware or ought reasonably to be aware in place of the criteria set out in subsection (1).

(3) Where the test results referred to in paragraph (1) (b) are results from toxicological studies, the studies shall have been carried out in accordance with

(a) the applicable OECD Test Guideline referred to in this part; and

(b) where there are no tests carried out in accordance with the applicable OECD Test Guidelines referred to in this part, one of the following tests or methods:

(i) in the case of a 90-day test or a chronic test, a test or method described in U.S. Food and Drug Administration (FDA) guidelines or U.S.

Environmental Protection Agency (EPA) guide-lines, as published in the Federal Register and as amended from time to time.

(ii) in the case of a test for skin or eye irritation, the Draize Test as described in volume 82 of The Journal of Pharmacology and Experimental Therapeutics, dated 1944, at pages 377 to 390.

(iii) in the case of a test for teratogenicity, a test or method described in Principles for the Testing of Drugs for Teratogenicity, Technical Report Series Number 364, published in 1967 by the World Health Organization,

(iv) in the case of a test for mutagenicity, a test or method described by the U.S. Environmental Protection Agency (EPA) in "Proposed Guidelines for Registering Pesticides in the U.S.," Hazard Evaluation: Human and Domestic Animals," as published in volume 43 of the Federal Register (No. 163), dated 1978, at pages 37,336 to 37,403, or

(v) any other test or method that is carried out in accordance with generally accepted standards of good scientific practice at the time the test is carried out.

### CLASS A — COMPRESSED GAS

34. Any product, material or substance contained under pressure, including compressed gas, dissolved gas or gas liquefied by compression or refrigeration, that has any of the following characteristics shall be included in Class A — Compressed Gas listed in Schedule II to the Act:

(a) a critical temperature of less than 50°C (122°F);

(b) an absolute vapor pressure greater than 294 kilopascals (2.90 atmospheres) at 50°C (122°F);

(c) an absolute pressure in the cylinder or other pressure vessel in which it is packaged greater than 275 plus/minus 1 kilopascals (2.71 plus/minus 0.01 atmospheres) at 21.1°C (70°F) or 717 plus/minus 2 kilopascals (7.07 plus/minus 0.02 atmospheres) at 54°C (130°F); or

(d) in a liquid state, an absolute vapor pressure exceeding 275 kilopascals (2.71 atmospheres) at 37.8 degrees Celsius (100°F) as determined by the Standard Test Method for Vapor Pressure of Petroleum Products (Reid Method), ASTM D323-82, dated Aug. 27, 1981.

### CLASS B — FLAMMABLE AND COMBUSTIBLE MATERIAL

35. (1) The products, materials and substances referred to in sections 36 to 41 shall be included in Class B (Flammable and Combustible Material) listed in Schedule II to the Act.

(2) Divisions 1 to 6 are established as divisions of Class B (Flammable and Combustible Material) listed in Schedule II to the Act.

#### Division 1: Flammable Gases

36. Any product, material or substance falls into Division 1 of Class B (Flammable and Combustible Material) if it is a compressed gas included in Class A (Compressed Gas) that, at normal atmospheric pressure, forms a flammable mixture with air

(a) when in a concentration of 13 per cent or less by volume; or

(b) over a concentration range of at least 12 per cent by volume.

#### Division 2: Flammable Liquids

37. Any product, material or substance falls into Division 2 of Class B (Flammable and Combustible Material) if it is a liquid that has a flash point of less than 37.8°C (100°F), when tested in accordance with the applicable method specified in Schedule IV for that type of liquid.

#### Division 3: Combustible Liquids

38. Any product, material or substance falls into Division 3 of Class B (Flammable and Combustible Material) if it is a liquid that has a flash point of 37.8°C (100°F), or more but less than 93.3°C (200°F), when tested in accordance with the applicable method specified in Schedule IV for that type of liquid.

#### Division 4: Flammable Solids

39. Any product, material or substance falls into Division 4 of Class B (Flammable and Combustible Material) if it is a solid that

(a) causes fire through friction or through retained heat from manufacturing or processing;

(b) can be ignited readily and when ignited burns so vigorously and persistently as to create a hazard;

(c) ignites readily and burns with a self-sustained flame at rate of more than 0.254 centimetre (0.1 inch) per second along its major axis, when tested in accordance with the method set out in Schedule V; or

(d) is included in Division 1 of Class 4 of Part III of the Transportation of Dangerous Goods Regulations.

#### Division 5: Flammable Aerosols

40. Any product, material or substance falls into Division 5 of Class B

(Flammable and Combustible Material) if it is packaged in an aerosol container and, when tested in accordance with the method set out in Schedule VI, yields a flame projection at full valve opening or a flashback at any degree of valve opening.

### Division 6: Reactive Flammable Materials

41. Any product, material or substance falls into Division 6 of Class B (Flammable and Combustible Material) if

(a) it is spontaneously combustible and liable to spontaneous heating under normal conditions of use or liable to heat in contact with air to the point where it begins to burn; or

(b) it emits a flammable gas or becomes spontaneously combustible on contact with water or water vapour.

### CLASS C — OXIDIZING MATERIAL

42. Any product, material or substance shall be included in Class C (Oxidizing Material) listed in Schedule II to the Act if

(a) it causes or contributes to the combustion of another material by yielding oxygen or any other oxidizing substance, whether or not the product, material or substance is itself combustible; or

(b) it is an organic peroxide that contains the bivalent O-O structure.

### CLASS D — POISONOUS AND INFECTIOUS MATERIAL

43. (1) The products, materials and substances referred to in sections 46 to 64 shall be included in Class D (Poisonous and Infectious Material) listed in Schedule II to the Act.

(2) Divisions 1 to 3 are established as divisions of Class D (Poisonous and Infectious Material) listed in Schedule II to the Act.

(3) Subdivisions A and B are established as subdivisions of Divisions 1 and 2 of Class D (Poisonous and Infectious Material) listed in Schedule II to the Act.

(4) A gas included in Division 4 of Class 2 in Part III of the Transportation of Dangerous Goods Regulations does not fall into Division 1 or Division 2 of Class D (Poisonous and Infectious Material).

### Formulae for Equivalent LC 50

44. For the purpose of establishing that a product, material or substance falls into Division 1 of Class D (Poisonous and Infectious Material), an LC 50 that is obtained in an animal assay at an exposure duration of other than four hours may be converted to an LC 50 equivalent to an exposure duration of four hours by using the following formulae:

(a) for a gas or vapor,

( See graph \*\* )

### Toxicological Evaluation of Mixtures: LD 50 and LC 50 Data

45. (1) Subject to subsection (3), where the LD 50 or LC 50 of every ingredient of a mixture present at a concentration of one per cent or more is known, the LD 50 or LC 50 of the mixture shall be determined, taking into account all ingredients present at

a concentration of one per cent or more, by using the following formulae:

( See graph \*\*\* )

(2) Subject to subsection (3), where the LD 50 or LC 50 of one or more ingredients of a mixture is not known, the LD 50 or LC 50 of the mixture is equal to the LD 50 or LC 50 of the most acutely lethal ingredient that is present in the mixture at a concentration of one per cent or more and for which LD 50 or LC 50 data is available.

(3) The LD 50 or LC 50 of a mixture may be determined by testing the mixture.

### Division 1: Materials Causing Immediate and Serious Effects

#### Subdivision A: Very Toxic Material

#### Pure Substances and Tested Mixtures

#### Acute Lethality

46. A pure substance or tested mixture falls into Subdivision A of Division 1 of Class D — Poisonous and Infectious Material if, in an animal assay for acute lethality, it has an

(a) LD 50 not exceeding 50 milligrams per kilogram of bodyweight of the animal when tested in accordance with OECD Test Guideline No. 401, "Acute Oral Toxicity," dated May 12, 1981;

(b) LD 50 not exceeding 200 milligrams per kilogram of bodyweight of the animal when tested in accordance with OECD Test Guideline No. 402, "Acute Dermal Toxicity," dated May 12, 1981;

(c) LC 50 not exceeding 2,500 parts per million by volume of gas when tested for four hours in accordance with OECD Test Guideline No. 403, "Acute Inhalation Toxicity," dated May 12, 1981;

(d) LD 50 not exceeding 1,500 parts per million by volume of vapor when tested for four hours in accordance with OECD Test Guideline No. 403, "Acute Inhalation Toxicity," dated May 12, 1981, and a saturated vapor concentration at normal atmospheric pressure greater than two times the value of that LC 50; or

(e) LC 50 not exceeding 0.5 milligrams per litre or 500 milligrams per cubic metre of dust, mist or fume when tested for four hours in accordance with OECD Test Guideline No. 403, "Acute Inhalation Toxicity," dated May 12, 1981.

#### Poisonous Substances as Defined by the Transportation of Dangerous Goods Regulations

47. A pure substance or tested mixture falls into Subdivision A of Division 1 of Class D (Poisonous and Infectious Material) if it is included in Division 3 of Class 2 or in Packing Group I or II of Division 1 of Class 6 in Part III of the Transportation of Dangerous Goods Regulations.

#### Untested Mixtures

48. An untested mixture falls into Subdivision A of Division 1 of Class D (Poisonous and Infectious Material) if it contains a product, material or substance that meets any of the

criteria applicable to a pure substance or tested mixture referred to in section 46 or 47 and is present at a concentration of one per cent or more.

#### Subdivision B: Toxic Material

#### Pure Substances and Tested Mixtures

#### Acute Lethality

49. A pure substance or tested mixture falls into Subdivision B of Division 1 of Class D (Poisonous and Infectious Material) if, in an animal assay for acute lethality, it has an (a) LD 50 of more than 50 but not exceeding 500 milligrams per kilogram of bodyweight of the animal, when tested in accordance with OECD Test Guideline No. 401, "Acute Oral Toxicity," dated May 12, 1981;

(b) LD of more than 200 but not exceeding 1,000 milligrams per kilogram of bodyweight of the animal, when tested in accordance with OECD Test Guideline No. 402, "Acute Dermal Toxicity," dated May 12, 1981;

(c) LC 50 of more than 1,500 but not exceeding 2,500 parts per million by volume of vapor, when tested for four hours in accordance with OECD Test Guideline No. 403, "Acute Inhalation Toxicity," dated May 12, 1981, and a saturated vapor concentration at normal atmospheric pressure of more than 0.4 times the LC 50 or

(d) LD 50 of more than 0.5 but not exceeding 2.5 milligrams per litre or grams per cubic metre of dust, mist or fume, when tested for four hours in accordance with OECD Test Guideline No. 403, "Acute Inhalation Toxicity," dated May 12, 1981.

#### Poisonous Substances as Defined by the Transportation of Dangerous Goods Regulations

50. A pure substance or tested mixture falls into Subdivision B of Division 1 of Class D (Poisonous and Infectious Material) if it is included in Packing Group III of Division 1 of Class 6 in Part III of the Transportation of Dangerous Goods Regulations.

#### Untested Mixtures

51. An untested mixture falls into Subdivision B of Division 1 of Class D — Poisonous and Infectious Material if it contains a product, material or substance that meets any of the criteria applicable to a pure substance or tested mixture referred to in section 49 or 50 and is present at a concentration of one per cent or more.

#### Division 2: Material Causing Other Toxic Effects

#### Subdivision A: Very Toxic Material

#### Pure Substances and Tested Mixtures

#### Chronic Toxic Effects

52. A pure substance or tested mixture falls into Subdivision A of Division 2 of Class D (Poisonous and Infectious Material) if, in an animal assay for chronic toxic effects, it elicits a response of sufficient severity to threaten life or cause serious permanent impairment in a statistically significant proportion of the test population at

a) a dose not exceeding 10 milligrams per kilogram of bodyweight of the

$$LC\ 50\ at\ Y\ hours\ \times\ (Y\ hours) = LC\ 50\ at\ 4\ hours; \text{ and}$$

$$**\ (b)\ \text{for dust, mist or fume,}$$

$$LC\ 50\ at\ Y\ hours\ \times\ (Y\ hours) = LC\ 50\ at\ 4\ hours$$

Note: Y = actual number of hours of exposure duration.

(a) for a solid or a liquid,

1	=	proportion of ingredient A	+	proportion of ingredient B	+	proportion of last ingredient
.....		LD 50 of mixture		LD 50 of ingredient A		LD 50 of last ingredient

\*\*\* (b) for a gas, vapour, dust, mist or fume,

1	=	proportion of ingredient A	+	proportion of ingredient B	+	proportion of last ingredient
.....		LC 50 of mixture		LC 50 of last ingredient A		LC 50 of last ingredient

Note: proportion = the weight of the ingredient divided by the weight of the mixture.