

...Hazardous Products Act

animal per day when tested in accordance with

i) OECD Test Guideline No. 408, "Subchronic Oral Toxicity — Rodent: 90-day," dated May 12, 1981.

ii) OECD Test Guideline No. 409, "Subchronic Oral Toxicity — Non-Rodent: 90-day," dated May 12, 1981.

iii) the oral route test in OECD Test Guideline No. 452, "Chronic Toxicity Studies," dated May 12, 1981.

b) a dose not exceeding 20 milligrams per kilogram of bodyweight of the animal per day when tested in accordance with

i) OECD Test Guideline No. 411, "Subchronic Dermal Toxicity: 90-day," dated May 12, 1981; or

ii) the dermal route test in OECD Test Guideline No. 452, "Chronic Toxicity Studies," dated May 12, 1981; or

c) a concentration not exceeding 25 parts per million by volume of gas or vapor, or not exceeding 10 micrograms per litre or 10 milligrams per cubic meter of dust, mist or fume when tested in accordance with

i) OECD Test Guideline No. 413, "Subchronic Inhalation Toxicity: 90-day," dated May 12, 1981.

ii) the inhalation route test in OECD Test Guideline No. 452, "Chronic Toxicity Studies," dated May 12, 1981.

Teratogenicity and Embryotoxicity

53. (1) 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 teratogenicity and embryotoxicity, it is shown to cause injury to the embryo or fetus in a statistically significant proportion of the test population at a concentration that has no adverse effect on the pregnant female when tested in accordance with

a) OECD Test Guideline No. 414, "Teratogenicity," dated May 12, 1981;

b) OECD Test Guideline No. 415, "One-Generation Reproduction Toxicity," dated May 26, 1983; or

c) OECD Test Guideline No. 416, "Two-Generation Reproduction Toxicity," dated May 26, 1983.

(2) In this section, "injury" includes death, malformation, permanent metabolic or physical dysfunction, growth retardation or psychological or behavioral alteration that occurs during pregnancy, at birth or in the postnatal period.

Carcinogenicity

54. A pure substance or tested mixture falls into Subdivision A of Division 2 of Class D (Poisonous and Infectious Material) if it is listed in

a) section A1, A2 or A3 of Appendix A of the Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environment, published by the ACGIH, as amended from time to time; or

b) Group 1 or Group 2 in the IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to

Humans, published by the World Health Organization, as amended from time to time.

Reproductive Toxicity

55. A pure substance or tested mixture falls into Subdivision A of Division 2 of Class D (Poisonous and Infectious Material) if

a) there is evidence that shows that it causes sterility or an adverse effect on reproductive capability in persons following exposure to it in the workplace; or

b) sterility or an adverse effect on reproductive capability is shown in an animal assay for reproductive toxicity carried out in accordance with

i) OECD Test Guideline No. 415, "One-Generation Reproduction Toxicity," dated May 26, 1983; or

ii) OECD Test Guideline No. 416, "Two-Generation Reproduction Toxicity," dated May 26, 1983.

Respiratory Tract Sensitization

56. A pure substance or tested mixture falls into Subdivision A of Division 2 of Class D (Poisonous and Infectious Material) if there is evidence that shows that it causes respiratory tract sensitization in person following exposure to it in the workplace.

57. (1) A pure substance or tested mixture falls into Subdivision A of Division 2 of Class D (Poisonous and Infectious Material) if

a) there is epidemiological evidence that shows a causal connection between exposure of persons to the substance or mixture and heritable genetic effects; or

b) there is evidence of mutagenicity in mammalian germ cells in vivo as shown by

i) positive results in a study that measures mutations transmitted to offspring; or

ii) positive results in an in vivo study showing chemical interaction with genetic materials of mammalian germ cells and positive results in an in vivo study assessing either gene mutation or chromosomal aberration in somatic cells.

2) The evidence referred to in paragraph (1)(b) shall be obtained

a) in accordance with test methods described in the "Introduction to the OECD Guidelines on Genetic Toxicology Testing and Guidance on the Selection and Application of Assays," dated March 1, 1987, published in the Third Addendum to the OECD Guidelines for Testing of Chemicals; and

b) using testing strategies described in the Guidelines on the Use of Mutagenicity Tests in the Toxicological Evaluation of Chemicals, dated 1986, published under the authority of the Minister of National Health and Welfare and the Minister of the Environment.

58. An untested mixture falls into Subdivision A of Division 2 of Class D (Poisonous and Infectious Material) if it contains a product, material or substance that meets the criteria applicable to a pure substance or tested mixture referred to in

a) any of sections 53 to 57, if the product, material of substance is present at a concentration of 0.1 per cent or more; or

b) section 52, if the product, material or substance is present at a concentration of one per cent or more.

Subdivision B: Toxic Material Pure Substances and Tested Mixtures Chronic Toxic Effects

59. A pure substance or tested mixture falls into Subdivision B 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 of more than 10 but not exceeding 100 milligrams per kilogram of bodyweight of the animal per day, when tested in accordance with

i) OECD Test Guideline No. 408, "Subchronic Oral Toxicity — Rodent: 90-day," dated May 12, 1981;

ii) OECD Test Guideline No. 409, "Subchronic Oral Toxicity — Non-Rodent: 90-day," dated May 12, 1981; or

iii) the oral route test in OECD Test Guideline No. 452, "Chronic Toxicity Studies," dated May 12, 1981.

b) a dose of more than 20 but not exceeding 200 milligrams per kilogram of bodyweight of the animal per day, when tested in accordance with

i) OECD Test Guideline No. 411, "Subchronic Dermal Toxicity: 90-day," dated May 12, 1981; or

ii) the dermal route test in OECD Test Guideline No. 452, "Chronic Toxicity Studies," dated May 12, 1981; or

c) a concentration of more than 25 but not exceeding 250 parts per million by volume of gas or vapor, or more than 10 but not exceeding 100 micrograms per litre or more than 10 but not exceeding 100 milligrams per cubic metre, of dust, mist or fume, when tested in accordance with

i) OECD Test Guideline No. 413, "Subchronic Inhalation Toxicity: 90-day," dated May 12, 1981; or

ii) the inhalation route test in OECD Test Guideline No. 452, "Chronic Toxicity Studies," dated May 12, 1981.

Skin or Eye Irritation

60. A pure substance or tested mixture falls into Subdivision B of Division 2 of Class D (Poisonous and Infectious Material) if, in an animal

assay

a) it causes an effect graduated at a mean of two or more for erythema formation or two or more for edema formation, when tested in accordance with OECD Test Guideline No. 404, "Acute Dermal Irritation/Corrosion," dated May 12, 1981, as measured at any of the times specified in the test; or

b) it causes an effect graded at a mean of two or more for corneal damage, one or more for iris damage or 2.5 or more for conjunctival swelling or redness, when tested in accordance with OECD Test Guideline No. 405, "Acute Eye Irritation/Corrosion," dated May 12, 1981, as measured at any of the times specified in the test.

Skin Sensitization

61. A pure substance or tested mixture falls into Subdivision B of Division 2 of Class D (Poisonous and Infectious Material) if

a) in an animal assay carried out in accordance with OECD Test Guideline No. 406, "Skin Sensitization," dated May 12, 1981,

i) it produces a response in 30 per cent or more of the test animals, when using one of the techniques incorporating the use of an adjuvant; or

ii) it produces a response in 15 per cent or more of the test animals, when using one of the techniques not incorporating the use of an adjuvant; or

b) evidence shows that it causes skin sensitization in persons following exposure in a workplace.

Mutagenicity

62. A pure substance or tested mixture falls into Subdivision B of Division 2 of Class D (Poisonous and Infectious Material) if evidence of mutagenicity in mammalian somatic cells in vivo is obtained in a test to assess either gene mutation or chromosomal aberration carried out

a) in accordance with methods described in the "Introduction to the OECD Guidelines on Genetic Toxicology Testing and Guidance on the Selection and Application of Assays" published in the Third Addendum to the OECD Guidelines for Testing of Chemicals, dated March 1, 1987; and

b) using testing strategies described in the Guidelines on the Use of Mutagenicity Tests in the Toxicological Evaluation of Chemicals, dated 1986, published under the authority of the Minister of National Health and Welfare and the Minister of the Environment.

Untested Mixtures

63. An untested mixture falls into Subdivision B of Division 2 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 sub-

stance or tested mixture referred to in any of sections 53 to 62 and is present at a concentration of one per cent or more.

Division 3: Biohazardous Infectious Material

64. An organism that has been shown to cause disease or is reasonably believed to cause disease in persons or animals and the toxins of such an organism fall into Division 3 of Class D (Poisonous and Infectious Material).

CLASS E — CORROSIVE MATERIAL

65. A product, material or substance shall be included in Class E (Corrosive Material) listed in Schedule II to the Act if

a) it corrodes SAE 1020 steel or 7075-T6 non-clad aluminum surfaces at a rate exceeding 6.25 millimeters per year at a test temperature of 55 degrees Celsius when tested in accordance with Test Method, Laboratory Corrosion Testing of Metals for the Process Industries, NACE Standard TM-01-69 (1976 Revision);

b) it is corrosive to skin when tested in accordance with OECD Test Guideline No. 404, "Acute Dermal Irritation/Corrosion," dated May 12, 1981;

c) it is included in Class 8 in part III of the Transportation of Dangerous Goods Regulation;

d) it is a gas included in Division 4 of Class 2 in Part III of the Transportation of Dangerous Goods Regulations;

e) there is evidence that it causes visible necrosis of human skin tissue; or

f) it is an untested mixture containing a product, material or substance that meets the criteria referred to in paragraph (b) or (e) and is present at a concentration of at least one per cent.

CLASS F — DANGEROUSLY REACTIVE MATERIAL

66. A product, material or substance shall be included in Class F (Dangerously Reactive Material) listed in Schedule II to the Act if it

a) undergoes vigorous polymerization, decomposition or condensation;

b) becomes self-reactive under conditions of shock or increase in pressure or temperature; or

c) reacts vigorously with water to release a gas that has an LC50 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.

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How WHMIS is enforced nation-wide

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TORONTO — Although it was created under both federal and provincial legislation, the provinces are responsible for the administration and enforcement of the Canada-wide Workplace Hazardous Materials Information System (WHMIS), says Ontario WHMIS co-ordinator Don Hall.

"That's one of the beauties of WHMIS. It's a pan-Canadian system — the fines (for suppliers) are the same and the method of inspection is the same," says Hall, noting that fines for employers violating WHMIS regulations do vary according to each province's health and safety laws.

WHMIS regulations are designed to ensure better protection for employees in the workplace. WHMIS requires that hazardous materials be labelled, that material safety data sheets be sent with the hazardous materials and that employees be trained in the safe handling of the materials.

Provincial legislation, explains Hall, covers education and training in the workplace. The federal WHMIS legislation, including the Hazardous Products Act, covers suppliers of controlled products and regulates the sale and importation of those products.

Hazardous materials and controlled products are one and the same. They are: compressed gases, flammable and combustible materials, oxidizing materials, poisonous and infectious materials, corrosive materials and dangerously reactive materials.

A supplier who violates the federal provisions of the WHMIS legislation can be charged with a summary offence or an indictable offence (major violations). The maximum sentence for a summary conviction is a \$100,000 fine and/or six months in jail. If a supplier is convicted of an indictable offence, the maximum fine is \$1 million (and/or two years in jail).

Penalties for employers (covered by provincial legislation) vary considerably.

Employers failing to comply with the Ontario requirements of WHMIS are subject to fines up to \$25,000 and/or one year in jail. However, under planned legislative amendments, those fines would increase to a maximum of \$500,000, the highest such fines in Canada.

The proposed amendments also would require that Ontario employers provide inventories of hazardous materials and workplace floorplans — on request — to municipal officials, police and fire departments, health officials and employees.

Physical agents, including noise, vibration, heat and cold stress, radiation and lasers, are already covered by Ontario's WHMIS regulations, making that province's regulations the most far-reaching in Canada.

TWO-YEAR SENTENCE

Fines for first offences in other provinces vary from a minimum of \$1,500 and no maximum in British Columbia to a maximum of \$20,000 (for corporations) in Quebec. The longest maximum jail sentence for employers is two years (Saskatchewan).

The maximum penalty for employers in Prince Edward Island is \$2,000 and/or two months in jail. In New-

foundland, the maximum sentence is \$5,000 and/or six months in jail.

In New Brunswick, employers convicted of contravening WHMIS regulations can be assessed a fine of up to \$15,000 and/or three months in jail. In addition, there is a \$15,000 fine for each day the offence continues.

The maximum sentence in Nova Scotia is a \$10,000 fine and/or 12 months in jail.

In Quebec, maximum fines for a first offence are \$1,000 for individuals (and/or six months in jail) and \$20,000 for corporations. For second offences, the maximum fines are \$2,000 for individuals (and/or 12 months in jail) and \$50,000 for a corporation.

In Manitoba, violators can face sentences of up to \$15,000 for a first offence and \$30,000 for a second offence. The maximum jail term — which can be handed down in addition to a fine or in place of — is six months.

Saskatchewan has set \$5,000 as the maximum fine for a first offence and \$10,000 for a second offence. The maximum jail term is two years.

In Alberta, the maximum sentence for a first offence is \$15,000 and/or six months in jail. For a second offence, the maximum fine is \$30,000.

British Columbia bases its fines on a company's payroll. While there is no maximum, the minimum fine is \$1,500 for a first offence and \$3,500 for a second offence.

WHMIS regulations are overseen through existing provincial occupational safety inspection programs.

There have been some questions raised about the regulations. Ontario opposition MPPs responded to the provincial WHMIS legislation by expressing concerns about the input

employees will have in decisions concerning handling hazardous materials and WHMIS training.

There is also concern, expressed by some labor organizations, that the WHMIS regulations provide no clear definition of the length or quality of employee training.

Provincial WHMIS regulations do specify what should be included in employee training.

WHMIS regulations took effect across Canada Oct. 31, 1988. Products from primary suppliers of hazardous materials — suppliers who do not depend on other suppliers for raw materials — had to be shipped with a supplier label and a material safety data sheet (information regarding the product and other details, including first-aid measures).

Secondary suppliers, who receive their raw materials from other sources and needed more time to collect information on those materials, have been given an extension — to March

Exposure to hazardous materials may cause many health problems

About one-quarter of all North American workers are exposed to one or more chemical hazards, says the federal government.

Exposure to hazardous materials may cause or contribute to many serious health effects, such as heart ailments, kidney and lung damage, sterility, cancer and burns.

The Workplace Hazardous Material Information System was created

15, 1989 — to comply with WHMIS regulations.

In workplaces they visit, provincial inspectors will be checking labels and material safety data sheets, as well as asking about WHMIS education/training programs.

If an inspector finds that a controlled product isn't properly labelled or a complete MSDS was not sent with the product, he then traces the product to the company that supplied it, says Hall.

At this point, the provincial inspector "sort of puts on a federal enforcement hat and is now into looking at that supplier under the federal legislation," explains Hall.

Although there is a shared responsibility between the employer and the supplier to ensure hazardous products are properly labelled and that complete material safety data sheets are available, if there's a problem with the MSDS, it's the supplier who is held responsible, says Hall.

To ensure the people who come in contact with these materials have the information they need — how to handle the materials, precautions to take and what to do in an emergency.

"The goal of WHMIS is to reduce the incidence of illnesses and injuries resulting from the use of hazardous materials in the workplace," said a federal spokesman.