

THE WHMIS POCKET DICTIONARY

First edition edited by:
Jon Mayo, MBA
Department of Occupational Health and Safety
Queen's University
Kingston, Ontario

Second edition edited by:
D. Brian Morris, BSc, CRSP
Albright & Wilson Americas
Islington, Ontario

Published and distributed by
GENIUM PUBLISHING CORPORATION
One Genium Plaza
Schenectady, NY 12304-4690 USA
(518) 377-8854

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by Genium Publishing Corporation.
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Published 1988. Second Edition 1991
Printed in the United States of America
ISBN 0-931690-28-5

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Copies of *The WHMIS Pocket Dictionary*
are available in English or French with
your organization's name
and message imprinted on the cover.
A version corresponding to US law is available.

**WHMIS: The Workplace
Hazardous Materials
Information System**

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WHMIS Is for You

WHMIS (Workplace Hazardous Materials Information System) is one of those rare items that is elegantly functional. It can save your life.

The objective of WHMIS is to inform you concisely about the hazards of the materials you use so that you can protect yourself and respond to emergency situations. The law states that the hazardous materials you work with must be labelled and that you must have access to material safety data sheets (MSDSs). You must also be taught to read and understand them.

This *WHMIS Pocket Dictionary* will help you and your employer work more safely and intelligently. Enclosed is a straightforward explanation of what labels and MSDSs can tell you about a material. The information is provided to you in response to several new laws. Refer to the Terms and Abbreviations section for definitions of new words you encounter.

The information on labels and MSDSs is a summary of facts from many sources. Training and an understanding of these facts will provide you with the skills, knowledge, and good judgement to deal safely with your occupational exposure to hazardous materials. It will take some study to learn what MSDSs and labels say. The real challenge is to learn what they mean.

Living Things Are Fragile

The objective of WHMIS is to protect living things, specifically your fragile body! Materials can cause injury to you, your co-workers, and the environment in many ways. WHMIS tells you how.

Each of us works with all sorts of commercially prepared products and raw materials, and rarely do we consciously eat them. We rely on our belief that as long as the material

What Is WHMIS?

WHMIS is Canada's right-to-know legislation developed after six years of consultation among Government (Federal, Provincial, and Territorial), Labour, and Industry.

WHMIS is a Canada-wide hazard communication system whereby information is provided to workers in three ways:

1. Labels - Comprehensive labelling of hazardous materials
2. MSDSs - Provision of material safety data sheets for hazardous materials
3. Training - Effective training to understand the labels and MSDSs, and to use the hazardous materials

Since the federal government controls the conditions of sale and importation of goods and the provinces/territories control the workplace, WHMIS was implemented using a combination of federal and provincial/territorial legislation.

Under an amendment to the federal Hazardous Products Act, suppliers must classify the hazardous materials they supply to workplaces according to standard hazard criteria. They must apply standardized labels to packages and must develop and distribute material safety data sheets with detailed health and safety information.

Under various provincial/territorial legislation, employers are responsible for ensuring that hazardous materials are properly labelled and that MSDSs are readily available. Employers are also required to train their workers to understand the information on the labels and MSDSs and to apply the information to their work practices.

WHMIS Hazard Classes

A material is considered hazardous and triggers coverage by WHMIS if it meets the criteria for one or more of the following six hazard classes:

- Compressed Gas
- Flammable and Combustible Material
- Oxidizing Material
- Poisonous and Infectious Material
- Corrosive Material
- Dangerously Reactive Material

Each class has a symbol in the form of a pictogram, shown below. Materials within the above-noted classes are called "controlled products." There are some goods which would fall under one or more of the above-noted classes but are excluded from WHMIS labelling and MSDS requirements since they are covered under other federal legislation. These include

Pesticides	(Pest Control Products Act)
Radioactive materials	(Atomic Energy Control Act)
Pharmaceuticals	(Food and Drugs Act)
Food	(Food and Drugs Act)

Consumer products, manufactured goods, and wood and tobacco products are also excluded from the WHMIS requirements for labelling and the provision of MSDSs, but may still be subject to provincial/territorial regulations in the workplace.

Column I Classes and Divisions	Column II Hazard Symbols
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Class A - Compressed Gas

Class B - Flammable and Combustible Material

WHMIS Supplier Labels

As a condition of sale, controlled products must have a label of prescribed design which includes this information:

Product Identifier - trade name or chemical name

Supplier Identifier - supplier's name

MSDS Reference - generally "see MSDS supplied"

Hazard Symbol(s) - as shown on pages 7 and 8

Risk Phrases - describes nature of hazards

Precautionary Measures

First Aid Measures

LABEL BORDER

MATERIAL IDENTIFIER

RISK PHRASE(S) (One official language)	RISK PHRASE(S) (The other official language)
PRECAUTIONARY STATEMENT(S) (English or French) Eng./Fr.)	PRECAUTIONARY STATEMENT(S) (Alternative language,
FIRST AID MEASURES (English or French) Eng./Fr.)	FIRST AID MEASURES (Alternative language,
SEE MATERIAL SAFETY DATA SHEET (English or French) Eng./Fr.)	SEE MATERIAL SAFETY DATA SHEET (Alternative language,

SUPPLIER IDENTIFIER

The label must be readily legible and edged with a distinctive border in a colour which contrasts with the background colour. The text of the label must be written in both official languages (English and a French).

If all or part of the hazardous material is removed from its original labelled container and put into another vessel, a performance-oriented "workplace label" must be applied

A Comparison of WHMIS and TDGRs Requirements

Canadian workers encounter two systems of hazard communication: WHMIS, which is the main subject of this Pocket Dictionary, and the system used in transportation and defined in the Transportation of Dangerous Goods Regulations (TDGRs) [see table, pp. 12 and 13].

In transportation the chief purposes of labels and placards are to prevent transporting incompatible materials together, and to enable quick identification of hazardous materials involved in transportation accidents. The detailed MSDS has no equivalent in the TDGR system, and training is required only for those involved in offering goods for transport or actually moving them. Placards on large containers are large and bold, so that in an accident they are readable from a distance. As transportation is often international, the Canadian system is consistent with others throughout the world.

The TDGRs are the latest version of a system which has been around a lot longer than WHMIS, and which is designed to serve particular transportation requirements. It is no surprise that the two systems differ, although there are links between them. In some Classes of materials, one of the criteria causing a material to be controlled under WHMIS is that it is already classified under TDGRs. The pictograms WHMIS and TDGRs use are the same for the equivalent classes in the two systems, although the surround is different. The pictogram and class numbers for transportation are on square labels or placards, arranged on point, and coloured according to class. Transport labels or placards carry no warning or first aid statements, etc., other than pictogram and class number, so their meaning is the same in any country, regardless of language.

Material Safety Data Sheets (MSDSs)

Suppliers are required, as a condition of sale, to provide MSDSs with controlled products. The supplier must develop the MSDS in both English and French and it must be provided in the official language required by the customer. There may be a single bilingual MSDS, but usually there are two separate ones.

An understanding of how to interpret the information on labels and MSDSs is your best defense against accidents and injury. However, MSDSs' formats vary from supplier-to-supplier, and reading and understanding the various MSDSs can be difficult. The Controlled Products Regulations (CPR) of Canada require 9-section MSDSs. Over the past few years, an international effort to produce a consistent, easily recognizable MSDS format has resulted in a 16-section MSDS. This 16-section format is accepted by the ILO, EC, and in the US by the American National Standards Institute (ANSI Standard Z400.1). These 16-section MSDSs are becoming more prevalent and are acceptable in Canada as long as they are complete and contain all of the following categories of information that define a 9-section MSDS:

- Product Identifier and related information
- Hazardous Ingredients
- Physical Data
- Fire or Explosion Hazard
- Reactivity Data
- Toxicological Properties
- Preventive Measures
- First Aid Measures
- MSDS Preparation Information

Reading an MSDS

Section 1. Material Identification and Use

Information in This Section. This section identifies the material and the manufacturer and/or supplier. The material name on the MSDS must match the name on the container's WHMIS label. If the material has more than one name, each is listed. The chemical formula may be given. There are many materials which are not hazardous to the degree that they are controlled under WHMIS, but for which the suppliers still provide MSDSs. It is not a legal requirement that an MSDS shall state whether the material is a "Controlled Product," or that it shall carry the WHMIS symbols. However, many suppliers give this information on their MSDSs. A National Fire Protection Association (NFPA) hazardous rating fire diamond may appear, though again this is not legally required. This gives at-a-glance number ratings for the particular material's degree of flammability, reactivity, and health hazard. A complete description of the fire diamond is in the Terms and Abbreviations section. More specific information is found in the Fire or Explosion section of the MSDS.

Why This Information Is Important. It is essential that the right MSDS can be retrieved easily for each hazardous material in the workplace. Therefore they are "keyed" to the WHMIS label by an identical Product Identifier name. Also, thousands of materials with many similar names are found in workplaces. A mistake on the supplier's part in sending you the wrong sheet needs to be caught immediately, before you put your trust in the wrong information. Having the supplier's telephone number on the sheet can be a vital time-saver in the event of an accident involving the material.

Training

Under WHMIS, workplace specific training must be provided to those exposed or likely to be exposed to a controlled product. This training ensures that the worker benefits from the product labels and MSDSs that suppliers and employers must provide.

The training is to be developed in consultation with the joint occupational health and safety committee where required by law. The training is also to be updated annually or more frequently if there is a major change in the workplace or new hazard information becomes available.

The training must include:

- The WHMIS system in general: how to obtain, read, and interpret information on labels and MSDSs.
- A review of the MSDSs and hazards of controlled products present in the workplace, supplementing this with any additional information known to the employer.
- Precautions and procedures for the safe use, storage, handling, and disposal of the controlled product plus the purpose and significance of these precautions and procedures
- The health and safety hazards associated with exposure
- The use, purpose, and limitations of protective devices and equipment (both in theory and with hands-on practice).
- Procedures regarding emergencies and fugitive emissions.

Terms and Abbreviations on Labels and MSDSs

Absolute. A chemical substance relatively free of impurities, e.g., absolute alcohol.

Absolute Pressure. The total pressure within a vessel, pipe, etc., not offset by external atmospheric pressure. See psia, psig.

Absorb. To soak up. The incorporation of a liquid into a solid substance, as by capillary, osmotic, solvent, or chemical action. See Adsorb.

ACGIH. American Conference of Governmental Industrial Hygienists. An organization of professionals in governmental agencies or educational institutions engaged in occupational safety and health programs. ACGIH develops and publishes recommended occupational exposure limits for chemical substances and physical agents (see TLV and BEI). (6500 Glenway Ave., Bldg. D-7, Cincinnati, OH 45211; [513] 661-7881.)

Acid. An inorganic or organic compound that 1) reacts with metals to yield hydrogen; 2) reacts with a base to form a salt; 3) dissociates in water to yield hydrogen ions; 4) has a pH of less than 7.0; and 5) neutralizes bases or alkalis. All acids contain hydrogen and turn litmus paper red. They are corrosive to human tissue and are to be handled with care. See Base; pH.

Acidosis. A condition of decreased alkalinity of the blood and tissues. Symptoms may include sickly sweet breath, headache, nausea, vomiting, visual disturbances; usually the result of excessive acid production. Tissues and CNS functions are disturbed.

Acrid. Irritating and bitter (usually referring to smell).

Action Level. In the United States only, the exposure level (concentration in air) at which USA's OSHA regulations to protect employees take effect (29 CFR 1910.1001-1047); e.g., workplace air analysis, employee training, medical monitoring, and record keeping. Exposure below this level can also be harmful. This level is *generally* half the PEL.

Active Ingredient. The ingredient of a product that actually does what the product is designed to do.