

Suppliers' Guide to WHMIS

Preparing Compliant Material Safety Data Sheets and Labels



MATERIAL SAFETY DATA SHEET — 9 Sections

Section 1 — PRODUCT INFORMATION

Acetone

17-209

Happy Chemical Company

3556 Helium Lane

Victoria, BC

123 Nitrogen

Vapour Town

BC

Section 2 — HAZARDOUS INGREDIENTS

WORK SAFE BC
WORKING TO MAKE A DIFFERENCE
worksafebc.com

About WorkSafeBC

WorkSafeBC (the Workers' Compensation Board) is an independent provincial statutory agency governed by a Board of Directors. It is funded by insurance premiums paid by registered employers and by investment returns. In administering the Workers Compensation Act, WorkSafeBC remains separate and distinct from government; however, it is accountable to the public through government in its role of protecting and maintaining the overall well-being of the workers' compensation system.

WorkSafeBC was born out of a compromise between B.C.'s workers and employers in 1917 where workers gave up the right to sue their employers or fellow workers for injuries on the job in return for a no-fault insurance program fully paid for by employers. WorkSafeBC is committed to a safe and healthy workplace, and to providing return-to-work rehabilitation and legislated compensation benefits to workers injured as a result of their employment.

WorkSafeBC Prevention Information Line

The WorkSafeBC Prevention Information Line can answer your questions about workplace health and safety, worker and employer responsibilities, and reporting a workplace accident or incident. The Prevention Information Line accepts anonymous calls.

Phone 604 276-3100 in the Lower Mainland, or call 1 888 621-7233 (621-SAFE) toll-free in British Columbia.

To report after-hours and weekend accidents and emergencies, call 604 273-7711 in the Lower Mainland, or call 1 866 922-4357 (WCB-HELP) toll-free in British Columbia.

Suppliers' Guide to WHMIS

Preparing Compliant Material Safety Data Sheets and Labels



MATERIAL SAFETY DATA SHEET — 9 Sections

SECTION 1 — PRODUCT INFORMATION	
Acetone	
Use: solvent, general-purpose cleaning of adhesives, contact cements, printing inks, gum	
Supplier's Name: Happy Chemical Company	
Address: 5556 Helium Lane, Vancouver, BC	
City: Vapour Town	
Postal Code: X5X 5X5	
Emergency Telephone: (604) 234-5678	
WHMIS Classification (optional): B2, D2P	
SECTION 2 — HAZARDOUS INGREDIENTS	
LD ₅₀ of Ingredient (specify species and route)	LC ₅₀ of Ingredient (specify species)
99-100	67-64-1
5,800 mg/kg (oral)	

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WorkSafeBC Publications

Many publications are available on the WorkSafeBC web site. The Occupational Health and Safety Regulation and associated policies and guidelines, as well as excerpts and summaries of the *Workers Compensation Act*, are also available on the web site: WorkSafeBC.com

Some publications are also available for purchase in print:

Phone: 604 232-9704
Toll-free phone: 1 866 319-9704
Fax: 604 232-9703
Toll-free fax: 1 888 232-9714
Online ordering: WorkSafeBC.com and click on Publications;
follow the links for ordering

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The suppliers, manufacturers, MSDSs, and supplier labels in this guide were created to illustrate key WHMIS concepts for self-study. WorkSafeBC is not responsible for any other uses of the material. The MSDSs and supplier labels are not intended for direct use or incorporation by suppliers or employers in their WHMIS programs.

If any conflict exists between this material and current WHMIS legislation or related policies, the legislation and policies shall take precedence.

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ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists	HPA	Hazardous Products Act
ANSI	American National Standards Institute	IARC	International Agency for Research on Cancer
CAS	Chemical Abstracts Services Registry number	IDL	Ingredient Disclosure List (Canada)
CBI	Confidential Business Information	ILO	International Labour Organization
CCOHS	Canadian Centre for Occupational Health and Safety	ISO	International Standards Organization
CSST	Commission de la santé et de la sécurité du travail	MSHA	Mine Safety Health Administration
CPR	Controlled Products Regulations	NFPA	National Fire Protection Association
CSA	Canadian Standards Association	NIOSH	National Institute for Occupational Safety and Health
EEC	European Economic Community (changed to EU)	NTP	National Toxicology Program
EU	European Union	OECD	Organization for Economic Co-operation and Development
HMIRC	Hazardous Materials Information Review Commission	OSH	Occupational Safety and Health Regulations (provincial, territorial, federal)
HMIS	Hazardous Materials Information System (USA)	OSHA	Occupational Safety and Health Administration
		PIS	Policy Issue Sheet
		TSCA	Toxic Substance Control Act (USA)

Introduction

The Workplace Hazardous Materials Information System (WHMIS) provides information about many hazardous materials, called **controlled products**, used in the workplace. Under WHMIS, workers have the right to receive information about each controlled product they use – its identity, hazards, and safety precautions. The goal of WHMIS is to reduce injury and disease by communicating specific health and safety information about controlled products. This information can then be used to reduce exposure to hazardous materials.

WHMIS has developed a classification system that assigns controlled products into six hazard classes. The specific hazards of controlled products are represented by eight hazard symbols. After a controlled product has been classified, the following three WHMIS elements are used to communicate health and safety information:

1. WHMIS labels: Labels on controlled products alert workers to the identity and hazards of the products and provide precautionary measures.
2. Material Safety Data Sheets (MSDSs): Technical bulletins provide detailed hazard and precautionary information.
3. WHMIS education and training programs: Employer-provided education and training programs teach workers to work safely with and near controlled products.

Note: Not all controlled products in the workplace are sold with WHMIS labels and MSDSs. Some hazardous materials are sold with labelling and hazard information meeting the requirements of other legislation. These products are either partially or completely exempt from WHMIS requirements. (See page 4.)

WHO SHOULD USE THIS GUIDE?

Suppliers or employers can use this book as a self-study guide to learn how to classify products and review supplier labels and MSDSs. This guide will also help suppliers prepare WHMIS-compliant supplier labels and MSDSs for controlled products imported or sold for use in the workplace in Canada.

Under WHMIS, those who manufacture, import, sell, or distribute controlled products are referred to as suppliers.

HOW CAN THIS GUIDE HELP?

When a hazardous material is used in the workplace, the employer uses the MSDS and supplier label to develop safe work procedures for his/her workers. A complete, legible, and understandable supplier label and MSDS will enable workers to:

- Understand the hazards of the product
- Know the specific protective equipment and the specific workplace controls required
- Know what to do in case of an emergency (e.g., spill or first-aid incident)
- Know where to find more information

There are two basic considerations:

1. Labels and MSDSs must meet the requirements of Canadian WHMIS legislation.
2. The information should be simple, brief, and clear – that is, immediately understandable by all workers and employers.

The guide will help suppliers meet WHMIS requirements by:

- Providing an overview of WHMIS legislation and supplier responsibilities
- Providing basic information on how to classify a product and review hazardous ingredients
- Describing how to review MSDSs and supplier labels to determine if they meet WHMIS requirements
- Explaining step-by-step how to produce “user friendly” Canadian MSDSs and supplier labels
- Including tables and lists of references and resources to help suppliers research products
- Including practical aids such as examples, case studies, checklists, flowcharts, and additional exercises

This guide should be used as a supplement to the *WHMIS Core Material* manual (published by WorkSafeBC) and other related references.

CASE STUDIES

As the “Four Steps to Compliance” are discussed in different chapters, we will be using Best Brake Cleaner 123 as an example (case study numbers: 2, 5, 6, 7, 9, and 10).

Other examples help explain classification, hazardous ingredients, and MSDS content.

Summary of Case Studies		Starts On
#1	Classifying a Pure Substance (Chlorine)	Page 19
#2	Classifying a Mixture (Best Brake Cleaner 123)	Page 25
#3	Classifying a Mixture into D1 Based on Most Lethal Ingredient (ABC)	Page 30
#4	Classifying a Mixture into D1 Based on Acute Lethality Calculation (Super Stain Remover)	Page 32
#5	Reviewing Hazardous Ingredients (Best Brake Cleaner 123)	Page 46
#6	Reviewing a 9-section MSDS (Best Brake Cleaner 123)	Page 76
#7	Preparing a Compliant 9-section MSDS (Best Brake Cleaner 123)	Page 83
#8	Converting a 9-section MSDS to a 16-section MSDS (Super Wax Remover)	Page 112
#9	Reviewing a Supplier Label (Best Brake Cleaner 123)	Page 154
#10	Preparing a Compliant Supplier Label (Best Brake Cleaner 123)	Page 162
#11	The Supplier Blended Product: MSDS and Label (Floor Finisher)	Page 173

Additional Exercises

Additional exercises are found at the end of each chapter.

Summary of Additional Exercises	Starts On
Calculate Acute Lethality for D1 Classification (XYZ)	Page 35
Classify Product (Repel Aerosol)	Page 36
Check CAS Numbers (various products)	Page 53
Check Confidential Business Information (various products)	Page 54
Review a 9-section MSDS (Super Wax Remover)	Page 96
Review a 16-section MSDS (Stop Slide)	Page 135
Review Supplier Label	Page 167

To complete all of the additional exercises, make the following number of photocopies of the blank worksheet and checklists in the back cover folder of this guide:

- 1 copy of the WHMIS Classification Checklist
- 1 copy of the MSDS Checklist (9-section)
- 1 copy of the Supplier Label Checklist
- 1 copy of the MSDS Checklist (16-section)

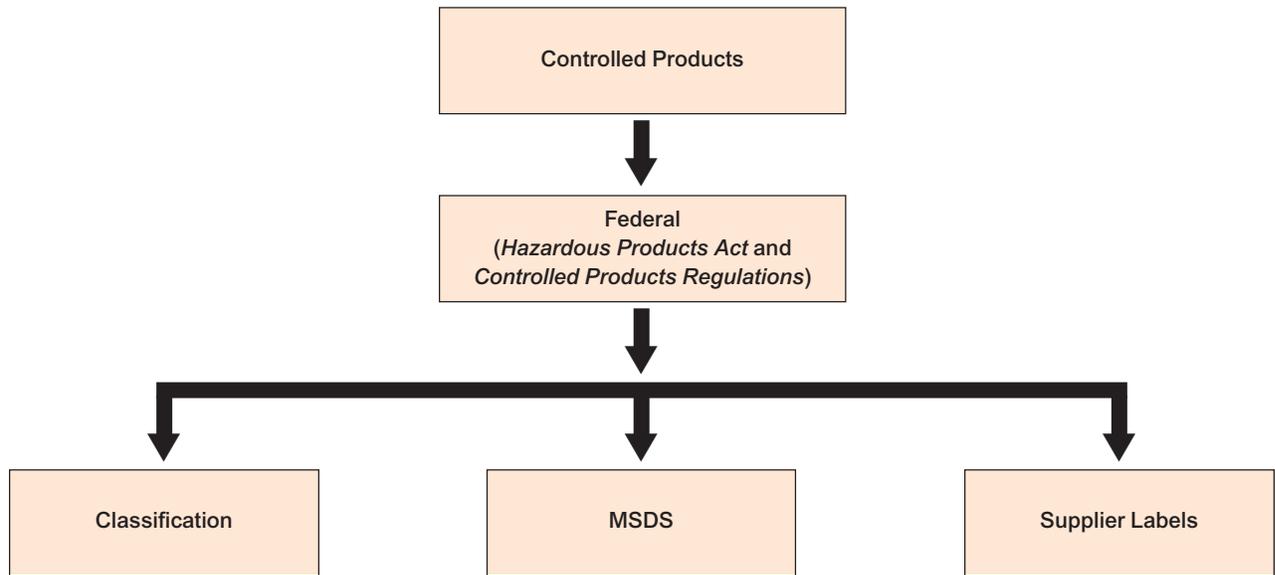
WHMIS Legislation

OVERVIEW OF LEGISLATION

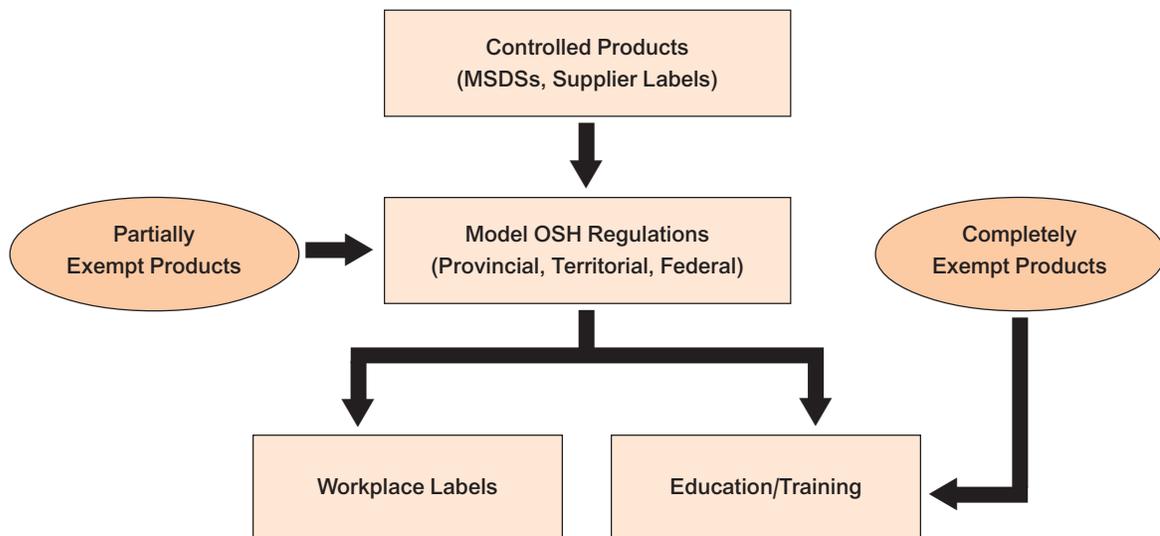
The purpose of WHMIS is to reduce the likelihood of disease or injury in the workplace. WHMIS was developed in the 1980s through tripartite discussions involving industry, labour, and provincial and territorial regulatory agencies under the guidance of the federal government. Recently a fourth caucus, an employer group, was added to the WHMIS decision-making process. The result is a nationwide system implemented at the federal and provincial levels. See Regulatory Contacts on page 211.

- **Federal legislation** establishes what products are controlled under WHMIS and deals with the importation and sale of these materials.
- **Provincial legislation** covers the use of hazardous materials in the workplace and identifies the employers' responsibilities.

Importation and Sale (Supplier/Importer)



Workplace (Employer)



ACTS AND REGULATIONS

Hazardous Products Act (HPA)

Part II of the *Hazardous Products Act* requires a supplier to provide WHMIS labels and MSDSs at the time of (or prior to) sale or importation of a controlled product.

Controlled Products Regulations (CPR)

The *Controlled Products Regulations* provide details of the WHMIS classification system for controlled products including the:

- Information requirements for MSDSs
- Format and information requirements for labels
- Conditions of exemption

Hazardous Materials Information Review Act (HMIRA)

The *Hazardous Materials Information Review Act*:

- Ensures a balance between industry's right to protect confidential business information (CBI) and workers' right to know about hazardous materials in the workplace
- Allows the supplier to make a formal application for a CBI exemption on the MSDS for information that is a valuable trade secret
- Allows, upon HMIRC approval of the application, the supplier to withhold information relating to the identity of an ingredient, but prevents the supplier from withholding hazard information (e.g., health effects), specific preventative measures, or first aid treatment information

Model OSH Regulations

To ensure national consistency, every jurisdiction (provincial, territorial, and federal) has established WHMIS "Model OSH" (Occupational Safety and Health) legislation. These regulations require employers to provide workplace labels and identification, MSDSs, and education and training for workers who work with, or in proximity to, controlled products.

ENFORCEMENT

All enforcement in Canada is performed by provincial, territorial, and federal OSH regulatory agencies.

Important: Some controlled products are sold with labelling and hazard information meeting the requirements of other legislation.

To obtain copies of the *Controlled Products Regulations* or the *Hazardous Products Act*, contact:

Canadian Government Publishing Centre
Phone: 613 957-4222
Fax: 613 954-0811
Web site: <http://laws.justice.gc.ca/en/index.html>

PRODUCTS EXEMPT FROM WHMIS

Some products are partially or completely exempt from the *HPA* because they are already covered under other legislation requiring disclosure of hazard information.

Exemption means:

- No WHMIS supplier label is required
- No MSDS is required as a condition of sale

Partially Exempt Products

Products covered by other federal legislation are exempt from federal WHMIS requirements for supplier labels and MSDSs.

However, provincial, territorial, and federal OSH regulations still apply. Employers must provide workplace labels, provide workers with hazard information about the product, educate workers about the hazards of the product, and educate and train workers in the safe use, handling, storage, and disposal of the product.

These partially exempt products are:

- Some consumer products (*Consumer Chemicals and Containers Regulations*)
- Cosmetics, medical devices, drugs, and foods (*Food and Drugs Act*)

- Explosives (*Explosives Act*)
- Pesticides (*Pest Control Products Act*)
- Radioactive substances (*Atomic Energy Control Act*)

Completely Exempt Products

Products that are completely exempt (sometimes called “excluded”) from federal and provincial WHMIS legislation are still covered under **general** provincial, territorial, and federal OSH regulations. Workers must be trained and supervised in the safe handling of these products.

These completely exempt products are:

- Wood and products made of wood
- Tobacco and products made of tobacco
- Manufactured articles
- Goods handled, offered for transport, or transported under the *Transportation of Dangerous Goods Act*
- Hazardous wastes

Commonly Asked Questions

Scenario 1 — Consumer Product

One litre of acetone is sold in a retail store. Are an MSDS and a supplier label required?

Answer: No. This product does not require an MSDS or a WHMIS supplier label because it is sold for consumer use. As a consumer product, it is subject to labelling under the *Consumer Chemicals and Containers Regulations (CCCR)*.

Scenario 2 — Trade Secret

A supplier imports a controlled product into Canada, with trade secrets registered in the USA (for example, in the state of New Jersey) on the MSDS. Is this an acceptable MSDS in Canada?

Answer: No. The supplier must formally apply to HMIRC in Ottawa for a CBI exemption. If the application is approved, the MSDS will disclose the information required in *CPR 27* (registration number and filing date). The ingredient identity may be withheld, but all hazard information, specific preventive measures, and first aid treatment must be disclosed. The supplier label information must also meet all legislative requirements.

Scenario 3 — Employer Imports

An employer imports a controlled product for use in the workplace. Who is responsible for supplying a proper MSDS and supplier label?

Answer: An employer who imports or produces a controlled product, even for his/her own use, is considered both the importer and supplier of the product. This means the employer must provide an up-to-date Canadian MSDS and attach a supplier label.

Note: The rest of this guide deals with controlled products that require WHMIS supplier labels and MSDSs (i.e., products that are not exempt).

FOUR BASIC STEPS

Four basic steps to make compliant MSDSs and labels:

Step 1: Classify the product.

Step 2: Review hazardous ingredients (make full disclosure or register CBI).

Step 3: Prepare the MSDS.

Step 4: Prepare the supplier label.

Why Does the Supplier Need to Review or Prepare MSDSs and Labels?

Each supplier in the Canadian distribution chain bears the responsibility for ensuring that MSDSs and supplier labels for controlled products comply with the *HPA* and *CPR*.

Some MSDSs do not comply because they:

- Are incomplete
- Are inaccurate or ambiguous
- Contain blank sections that require information
- Do not meet Canadian requirements

Employers and workers need specific product information from the supplier to fulfil health and safety requirements that prevent injury or death in the workplace.

Suppliers who do not meet their responsibilities under WHMIS legislation are subject to **criminal** penalties:

Federal Penalties

- Fines (up to \$1 million)
- Imprisonment (up to two years)

This guide outlines a process that suppliers can follow to prepare compliant MSDS and supplier labels. Each step of the supplier work process will be explained in detail.

FOUR STEPS TO COMPLIANCE

Step 1 — Classify the Product

Using the manufacturer's MSDS:

1. Review using WHMIS Classification Checklist.
2. Decide if the product meets criteria for one or more hazard classes. If it is a controlled product, **prepare MSDS and supplier label**.

Step 2 — Review Hazardous Ingredients

Using the manufacturer's MSDS:

1. Check hazardous ingredients information:
 - Specific chemical name
 - CAS number
 - Percentages
2. Revise data sheet information as required.
3. If required, file a CBI claim with HMIRC.

Step 3 — Prepare the MSDS

Using the manufacturer's MSDS:

1. Review MSDS using MSDS Checklist (9- or 16-section).
2. Research problem areas.
3. Revise MSDS or prepare new MSDS as required to meet Canadian requirements.

Step 4 — Prepare the Supplier Label

Using the revised MSDS (compliant):

1. Verify classification. (Based on the revised MSDS, have the results of the WHMIS Classification Checklist changed?)
2. Reclassify product as required. (Research if necessary.)
3. Review manufacturer's label (if available) using Supplier Label Checklist.
4. Revise label or prepare new supplier label as required to meet Canadian requirements.

WHMIS INFORMATION FLOW

SUPPLIER

Suppliers should be able to answer these four key questions:

1. Have you determined if the product is controlled under WHMIS?
2. Have you checked if the hazardous ingredients information has been properly disclosed or withheld under a valid CBI claim?
3. Have you reviewed and revised the MSDS for required information?
4. Have you reviewed and revised the supplier label for required information?



Correct Classification
Disclosure of Hazardous Ingredients or Valid CBI claim
Compliant MSDS
Compliant Supplier Label



EMPLOYER

WHMIS Education and Training Program

Workers who are successfully educated and trained should be able to answer these four questions:

1. What are the hazards of the product?
2. How do you protect yourself?
3. What should you do in case of an emergency or spill?
4. Where do you get more information on this product?



INFORMED WORKER

Do You Need to Hire a Consultant?

Suppliers must decide for themselves whether they should prepare the MSDS and supplier label in-house or hire a consultant. This decision should also be based on the complexity of the controlled product and the availability of technical information and resources.

If you have adequate technical knowledge, some familiarity with WHMIS, and access to manufacturers'

MSDSs to use as a starting point, this guide may help you prepare MSDSs and supplier labels that meet Canadian legislated requirements.

Various consultants and companies specialize in helping suppliers with WHMIS requirements. Provincial and Territorial Regulatory Contacts, on page 211, may have lists of consultants or companies that can provide assistance.



Product Identifier: Acetone

SECTION 6 - TOXICOLOGICAL PROPERTIES

Health Effects: Irritation; possible effects on central nervous system (CNS); at air concentrations above 8,000 ppm may cause drowsiness, incoordination, loss of reflexes, unconsciousness, and respiratory failure.

Exposure Routes: Dermal; No significant harmful effects from oral or inhalation exposures.

Exposure Limits: 250 ppm, 8-hour exposure limit (TWA)

Physical and Chemical Properties: Boiling Point: 56°C (133°F); Melting Point: -95°C (-140°F); Vapor Pressure: 230 mmHg (30.7 kPa) at 20°C (68°F); Specific Gravity: 0.79; Solubility: Soluble in water; Flash Point: -18°C (-0.4°F); Autoignition Temperature: 426°C (800°F); Lower Explosive Limit: 2.5% (25,000 ppm); Upper Explosive Limit: 12.5% (125,000 ppm).

SECTION 7 - PREVENTIVE MEASURES

Personal Protective Equipment: Wear adequate protective equipment. Use non-sparking and splash-proof chemical safety goggles or face shield. Use mechanical ventilation to reduce exposure. Use non-sparking and grounded and labelled container for disposal. Use grounded and non-sparking tools and equipment. Use appropriate disposal methods for all waste, including empty containers. Use appropriate disposal methods for all waste, including empty containers.

Fire Fighting: Extinguish all ignition sources. Wear adequate protective equipment. Contain spill with absorbent material, and local government requirements for disposal. Use grounded and non-sparking tools and equipment. Use appropriate disposal methods for all waste, including empty containers.

Spill and Leak Procedures: Contain spill with absorbent material, and local government requirements for disposal. Use grounded and non-sparking tools and equipment. Use appropriate disposal methods for all waste, including empty containers.

Storage: Store in a cool, dry, well-ventilated area away from heat and all ignition sources. Use grounded and non-sparking tools and equipment. Use appropriate disposal methods for all waste, including empty containers.

Disposal: Use appropriate disposal methods for all waste, including empty containers.