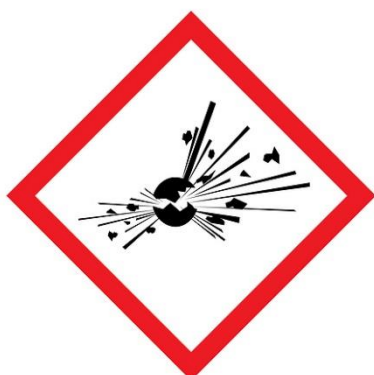


WHMIS Basics



Email: sales@chemscape.com

Website: www.chemscape.com

Phone: 403-720-6737

Table of Contents

Introduction	3
What is WHMIS?	3
Regulatory Links.....	3
WHMIS updates to GHS.....	3
What is the Globally Harmonized System (GHS)?	3
WHMIS after GHS.....	4
What is the difference between WHMIS 1988 MSDS & WHMIS 2015 SDS Formats	4
Changes to WHMIS 2015 Include:.....	4
Differences Between WHMIS 1988 and WHMIS 2015	5
WHMIS 1988 vs. WHMIS 2015 (GHS) Comparison Chart	5
Old System - WHMIS 1988	5
New System - WHMIS 2015.....	5
Responsibilities for Different Groups under WHMIS.....	6
What are manufacturer responsibilities?	6
What are supplier responsibilities?	6
What are employer responsibilities?.....	6
Classification under WHMIS	7
Pictograms	8
What are supplier labels?	9
What are workplace labels?	9
Safety Data Sheets	10
What are the 4 fundamental questions answered on an SDS?	10
Important Questions to Answer when Reading a Safety Data Sheet	11
WHMIS in action at work	12
Summary	12

WHMIS Basics

Introduction

This guide provides a general overview of WHMIS and is intended for informational purposes.

What is WHMIS?

WHMIS is a Canada-wide system that stands for the Workplace Hazardous Materials Information System. WHMIS was designed so employers and workers have health and safety information regarding hazardous products used in the workplace. Employers must use this information as well as information specific to their workplace and train their employees on the safe use, handling, and storage of hazardous products at their workplace.

Regulatory Links

[Canada's National Portal on WHMIS](#)

WHMIS updates to GHS

After many years of discussion Canada is aligned the Workplace Hazardous Materials Information System (WHMIS) with the international standard of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The old WHMIS will be known as WHMIS 1988 and the updated WHMIS with GHS will be called WHMIS 2015.

What is the Globally Harmonized System (GHS)?

The GHS is a system for harmonizing hazard classification criteria and chemical hazard communication elements worldwide. The GHS is not a regulation; rather it is a framework or guidance for classifying and labeling hazardous chemicals. The purpose of classification under the GHS is to provide harmonized information to users of chemicals with the goal of enhancing protection of human health and the environment.

Around the world countries have regulatory systems for chemical classification and hazard communication. The systems may look similar, but their differences can lead to multiple interpretations and inconsistencies for a classification, label, and Safety Data Sheets (SDS) for the same product. Moving to one standard in the age of global trade simplifies regulations and improves the safety for workers who interact with hazardous products.

WHMIS Basics

WHMIS after GHS

WHMIS 2015 incorporates GHS rules on classification of hazardous products and chemicals, as well as requirements in terms of proper labelling and safety data sheets (SDS). Responsibilities of employers, workers and suppliers remain the same.

- Under WHMIS 2015, Canadian employers are expected to continue to train and educate their staff on proper use and handling of chemical products.
- Ensure that hazardous or controlled products are properly labelled following industry standards.
- Properly prepare safety data sheets (SDS's, formerly MSDS's) as needed.
- Provide staff and workers with easy access to up to date SDS's and labels.

What is the difference between WHMIS 1988 MSDS & WHMIS 2015 SDS Formats

Canada has aligned the Workplace Hazardous Materials Information System (WHMIS) with the widely recognized Globally Harmonized System of Classification and Labelling of Chemicals (GHS). WHMIS will now be referred to as WHMIS 1988 and the newly updated GHS and WHMIS will be referred to as WHMIS 2015. The entire process is to be completed in 3 phases, with the final phase being completed by December 1st, 2018.



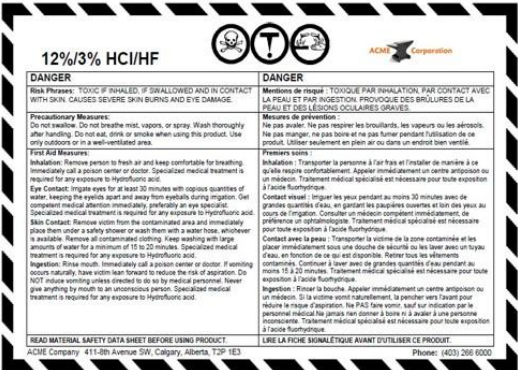

Changes to WHMIS 2015 Include:

- Ensuring that important safety information used by workers are easily located on labels and safety data sheets.
- Adopting internationally recognized methods for classifying hazardous workplace chemicals and providing detailed information and safety data sheets.
- Ensuring safety data sheets are consistent throughout all suppliers.
- Improving the visual elements of labels to include easy-understand pictograms to identify hazard classes.
- Updating the layout and format of safety data sheets.
- Modify the term of "Controlled Products" to the widely used term "Hazardous Products" to maintain consistency with federal WHMIS legislation.
- Distinguishing products into specific hazard groups, physical hazards and health hazards.

WHMIS Basics

Differences Between WHMIS 1988 and WHMIS 2015

WHMIS 1988 vs. WHMIS 2015 (GHS) Comparison Chart

Old System - WHMIS 1988	New System - WHMIS 2015
Controlled Products	Hazardous Products
	<p>Signal Word</p> <p>Danger (more serious hazards) Warning (less serious hazards)</p>
	<p>Classification</p> <p>Health Hazard Classes (12 categories) Physical Hazard Classes (9 categories) Environmental Hazard Classes (2 categories but not adopted by Canada; may see on SDS arriving from outside Canada)</p>
<p>Material Safety Data Sheets (MSDSs)</p> <p>9-section format Update every 3 years</p>	<p>Safety Data Sheets (SDSs)</p> <p>16-section format Order is very structured and specific Signal words (Warning or Danger) Hazard and Precautionary Statements Hazard Pictograms</p>
<p>Round Black & White Hazard Symbols</p> 	<p>Red Square 45° on a point Pictogram</p> 
<p>WHMIS 1988 Supplier Label</p> 	<p>WHMIS 2015 Supplier Label</p> <p>Product K1 / Produit K1</p> 

WHMIS Basics

Responsibilities for Different Groups under WHMIS



What are manufacturer responsibilities?

Manufacturers under WHMIS are expected to know the most about their chemical products. They are required to create WHMIS compliant container labels and SDSs. Manufacturers must actively distribute those SDSs. They may sell products directly to customers or through suppliers and distributors.

What are supplier responsibilities?

Suppliers may have chemical products that are made in Canada or imported from other countries. They are required to classify each product as hazardous or not hazardous according to WHMIS regulations. Chemical products need a supplier label and SDS before it is shipped to customers.

What are employer responsibilities?

As per WHMIS regulations and standards, employers are responsible for protecting their workers from health and safety hazards. Employers need to ensure their workers understand the hazards of the products in the workplace and understand how to protect themselves from those hazards. All hazardous products need labels and an up to date SDS. Employers need to provide education and training programs to their workers.

What are the workers responsibilities?

Workers need to participate in WHMIS and chemical safety training. Workers should recognize hazards in the workplace and take steps to protect themselves. They are required to follow instructions and workplace procedures. Workers need to tell employers if they observe problems with labels and SDSs. They should understand how to work with the hazardous products at their workplace.

WHMIS Basics

Classification under WHMIS



Most of the hazard classes in WHMIS 2015 are common to GHS; this means they will be used worldwide with other countries that have adopted GHS. There are a few classes that are specific to WHMIS 2015.

WHMIS 2015 classifies by assigning a product to a group and then to a category and finally a class. WHMIS 2015 has two main groups of hazards: the physical hazards group and the health hazards group. There is also a third GHS group called the Environmental Hazards Group that was not adopted by Canada or the USA; those countries use other regulations for the environment. A product can have more than one hazard group classification.

Physical Hazards Group: chemicals in this hazard group present significant physical danger. Products are classified based on their physical state (solid, liquid, gas) and physical properties (explosive, flammable, corrosive).

Health hazard Group: chemicals in this hazard group present health danger either in the short term or long term.

Example: Methanol Classification

Group	Class	Category
Physical Hazard	Flammable liquid	2
Health Hazard	Acute toxicity (Oral)	3
Health Hazard	Acute toxicity (Dermal)	3
Health Hazard	Acute toxicity (Inhalation)	3
Health Hazard	Eye Irritation	2B
Health Hazard	Reproductive toxicity - Effects on or via lactation	1A
Health Hazard	Specific target organ toxicity (single exposure)	1

WHMIS Basics

Pictograms

WHMIS GHS pictograms are graphic images that show you what type of hazard is present. They are organized according to the hazard group category. A chemical may have more than one pictogram.

Health Hazard



HEALTH HAZARD

Carcinogen
Mutagenicity
Reproductive Toxicity
Respiratory Sensitizer
Target Organ Toxicity
Aspiration Toxicity



SKULL & CROSSBONES

Acute Toxicity:
Fatal or toxic



EXCLAMATION MARK

Irritant (skin & eye)
Skin Sensitizer
Acute Toxicity (harmful)
Respiratory Tract Irritant
Narcotic Effects



CORROSION

Skin Corrosion / Burns
Eye Damage
Corrosive to Metals

Physical Hazard



GAS CYLINDER

Gases Under Pressure



EXPLODING BOMB

Explosives
Self-Reactives
Organic Peroxides



FLAME

Flammables
Pyrophorics
Self-Heating
Emits Flammable Gas
Self-Reactives
Organic Peroxides



FLAME OVER CIRCLE

Oxidizers



Biohazardous
Infectious
Materials
(unique to Canada)

Optional Environmental GHS Pictograms not adopted by WHMIS 2015 but you may see on labels and SDSs arriving from outside Canada.



ENVIRONMENT

Aquatic Toxicity



EXCLAMATION MARK

Hazardous Ozone Layer

WHMIS Basics

WHMIS Labels

You should see labels on every container you use on the job. Labels are used to communicate essential information about a product including:

- The name of the product.
- The physical and health hazards associated with the product.
- Precautions you need to take to work safely with the product.
- What to do in case of an emergency.

There are two types of labels: supplier labels and workplace labels. WHMIS 2015 regulations require a label on every product that is classified as hazardous product.

What are supplier labels?

Labels need to be on every container of product you use on the job. WHMIS supplier labels alert you to the name of the product, the hazards of the product, what precautions you need to take to work safely with the product, and what to do in an emergency. Suppliers ship their product with a supplier label.



What are workplace labels?

Suppliers may need to apply a WHMIS workplace label to a product, a workplace label may be required when:

- a hazardous product is made at the workplace and used at the same workplace
- a hazardous product is transferred to a secondary container
- a supplier label becomes damaged or unreadable

Acetone		
ABC Solvents Inc. (Industrial use)		
	DANGER	
Personal Protective Equipment		
Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness.		
Hazard Statements		
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Keep cool. Ground and bond container and receiving equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist, vapors, or spray. Wash thoroughly after handling. Wear protective gloves, protective clothing and eye protection. Store locked up.		
Precautionary Statements		
Refer to the Safety Data Sheet at https://acme.sdsbinders.com for additional information.		

WHMIS Basics

Safety Data Sheets


The Safety Data Sheet or SDS is a document that helps you to identify hazardous materials and gives you full details on what the hazards are. SDSs provide more detailed hazard information about the product than the label. It provides instruction on how to work safely with the hazardous product. It spells out the steps you need to take if there ever is an emergency. The SDS is where you find the facts on hazardous products you work with. Its where you go for more information.

What are the 4 fundamental questions answered on an SDS?

You should be familiar with the hazards of a product before you start to use it. Ensure the product name on the container is an exact match with the SDS.

Here are some basic questions you need to be able to answer before you work safely with a product:

1. What is this product? (section 1: Product Identification)
2. What are the hazards? (section 2: Hazard Identification)
3. How do I work with this safely? (section 7: Handling and Storage)
4. What do I do in an emergency? (section 4, 5, and 6: First Aid, Fire Fighting Measures, and Accidental Release Measures)

TRAKEWEST SOLUTIONS INC.		Strip-n-All
SAFETY DATA SHEET		Date of Preparation: April 24, 2016
Section 1: IDENTIFICATION		
Product Name:	Strip-n-All	
Synonyms:	Not available.	
Product Use:	Industrial use.	
Restrictions on Use:	Not available.	
Manufacturer/Supplier:	Trakewest Solutions Inc. 18 Forrest Road, Kellyville, AL 12345	
Phone Number:	1-555-555-5555	
Emergency Phone:	1-555-555-5555	
Date of Preparation of SDS:	April 24, 2016	
Section 2: HAZARD(S) IDENTIFICATION		
GHS INFORMATION		
Classification:	Acute Toxicity - Dermal, Category 4 Acute Toxicity - Inhalation, Category 3 Skin Corrosion, Category 1A Eye Damage, Category 1	
LABEL ELEMENTS		
Hazard Pictogram(s):		
Signal Word:	Danger	
Hazard Statements:	Harmful in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. Causes serious eye damage.	
Precautionary Statements		
Prevention:	Do not breathe mist, vapors, or spray. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, eye protection and face protection.	
Response:	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor. Wash contaminated clothing before reuse.	

Important Questions to Answer when Reading a Safety Data Sheet

When you read through a Safety Data Sheet there are certain questions you should ask to ensure you have a thorough understanding of the product. The information on the SDS may prompt follow up in other areas of your health and safety program.

Identification

- Do I have the correct SDS for the product and for the country?
- Do I have the most up to date SDS for the product?
- Does the SDS description match the product I have?

Potential Hazards

- Can this material burn or explode?
- Is this material unstable? If so, under what conditions?
- Can this product react with other chemicals? If so, which ones?
- How can this product harm my health?
- What are the symptoms of exposure?
- Do I need a discussion with my doctor on the health effects of the product?

Preventive Measures

- Do I need engineering controls?
- Are there any special handling precautions?
- What PPE is recommended?
- Do I need to be careful when mixing this material with any other chemicals?
- Are there special storage conditions?

Emergency Measures

- What do I do in a fire or explosion?
- What are the first aid measures if I am exposed?
- What do I do in a spill or leak?
- Where is the emergency response equipment?

WHMIS Basics

WHMIS in action at work

WHMIS training is frequently done when employees are hired as part of their orientation to a new company. Although there is no standard or expiration for WHMIS training industry best practices recommends WHMIS training should be ongoing, reviewed at least annually and adapt as hazards change in the workplace. A good WHMIS training program incorporates dialogue between the employer and employee with engagement and dialogue between management and front-line workers.

WHMIS training should incorporate:

- Education of WHMIS basics
- Roles and responsibilities
- Classification and GHS pictogram awareness
- Safety Data Sheet education
- SDS labelling requirements

Training needs to be done to make WHMIS workplace specific and practical to the employees. Examples of regular training can include review of safe work procedures; emergency drills and standards; annual chemical inventory – SDS and labelling practices; and regular toolbox talks on chemical safety.

Summary

[Chemscape](#) has many tools to help organizations with their WHMIS implementation and compliance. Chemscape provides [SDS Authoring](#) services to suppliers, has an online SDS Management system called [sdsBinders](#) to keep your inventory up-to-date and compliant, and Chemscape has an online WHMIS course many of our sdsBinders customers use. Chemscape also has an online chemical management program called [CHAMP \(Chemscial Hazard Assessment and Management Program\)](#). Chemscape's CHAMP system provides hazard assessments on your chemicals and offers recommendations on controls to reduce risk. Chemscape provides Industrial Hygiene Services to coach clients on chemical management best practices using our technologies.