1.1 Workplace Hazardous Materials Information System (WHMIS)

Welcome to the Workplace Hazardous Materials Information System (WHMIS) 2015 online course. As a global supplier of specialty chemicals, Sealed Air is committed to protecting the health and safety of our employees, and our customers’ employees, everyday and everywhere.

This program will provide you with the fundamental knowledge you need to work safely with the many different types of WHMIS controlled products you use in your workplace. It is our sincere hope that you will use this knowledge to ensure your health and safety on the job, and the health and safety of your co-workers and the customers you serve.

Thank you for taking the time to complete the online WHMIS 2015 training program. Good luck!

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2. Overview of WHMIS

2.1 Overview of WHMIS

Notes:
Overview of WHMIS 2015

2.2 What is WHMIS?

Notes:
Let's begin by gaining an understanding of what WHMIS is, what the letters stand for and why it was developed.

WHMIS stands for Workplace Hazardous Materials Information System.
2.3 Origin of WHMIS

Notes:

WHMIS is a Canada-wide system that began as a result of labor, government and employer concerns about how hazardous materials were being used, handled and stored in all workplaces.

2.4 Goal of WHMIS

Notes:

The goal of WHMIS is to reduce the number of workplace injuries or illnesses resulting from exposure to hazardous materials in your workplace.

It is important to note that WHMIS does not regulate the transportation of dangerous goods, the use of hazardous materials in the home, also known as Consumer Products, or the disposal of any hazardous materials.
2.5 WHMIS 2015

WHMIS 2015

Notes:

WHMIS is changing to incorporate the Globally Harmonized System of Classification and Labeling of Chemicals, also known as GHS. The essential elements of WHMIS, such as labels, safety data sheets, and training will remain. However, a new system for classifying and labeling chemicals will be adopted, which means that some of the symbols and terms used to describe chemicals in labels and Safety Data Sheets, will change.

2.6 Key Elements of WHMIS

Key Elements of W.H.M.I.S. 2015

There are four key elements in a W.H.M.I.S. program:

- Classification of Hazardous Products
- Labels
- Safety Data Sheets
- Education & Training Programs

Notes:

There are four key elements in a WHMIS program that are used to communicate health and safety information:

- Classification of hazardous materials
- Labels
- Safety Data Sheets otherwise known as SDS
• Education and Training programs.

This training will provide you with the foundation you need to make informed decisions about how to handle, work with and store the various controlled products found in your workplace.

2.7 WHMIS 2015 - Changes

Notes:

The new standard uses a different system for the classification of chemicals. There are new Physical and Health Hazard Classes, with categories or subcategories beneath each class. There is also a new set of pictograms to represent each class.

The changes in classification affect primarily the content of our labels and Material Safety Data Sheets (SDS), which will now be called just Safety Data Sheets (SDS). The format of our MSDS complies with the new standard. The format of labels may be modified to accommodate the information required by the new standard.
2.8 WHMIS 2015 - Timeline

To give suppliers, employers and workers time to adjust to the new system, the transition to WHMIS 2015 will take place over a three-year period. During this time, you may see labels and Safety Data Sheets that conform to the old WHMIS standard, in addition to seeing products that conform to the new WHMIS 2015 standard. This is acceptable, as long as the supplier uses only one standard for each product (A product's label should match its SDS in terms of the standard being followed).

Companies are required to provide employees training on the new system as their products transition to using the new system. This module meets that requirement.

More information about the changes to WHMIS program are available from a Resource that you can download by clicking the button in the upper right corner of your screen. You can also visit the WHMIS website which has a number of resources and frequently asked questions about the program.

3.1 Hazard Classes

Notes:

Hazard Classes
3.2 Introduction

Classification of hazardous materials is a key element of WHMIS 2015. Some product classifications are changing, as the Globally Harmonized System is adopted. It is important for you to understand these hazard classes and the role they play in providing essential information needed for you to be able to handle hazardous products safely in your workplace.

Before a Hazardous product arrives at your workplace, the supplier must classify the product and provide a WHMIS supplier label and Safety Data Sheet. If the Hazardous product is produced in your workplace then your employer must classify them.

As a worker you have no responsibilities for classifying controlled products. But it is important that you understand what the classifications mean.

3.3 Hazard Classifications

Notes:
Hazard classes are a way of grouping together products that have similar properties. Most of the hazard classes used in WHMIS 2015 are common to GHS and will be used worldwide by all countries that have adopted GHS. Some hazard classes are specific to WHMIS 2015. The six existing WHMIS hazard classes will be replaced by GHS terms and pictograms.

3.4 What is a Hazardous Chemical?

Notes:

What is a Hazardous Chemical?
Hazardous Chemicals are solids, liquids or gases that can harm people, other living organisms, property, or the environment. Some examples of hazardous materials you may be familiar with include bleach, drain cleaner and antifreeze. In order for a chemical to be classified as hazardous, it must have either a physical or health hazard associated with it.

3.5 GHS Hazard Classes
Notes:

Physical and Health Hazards are the two main classes of hazards in the Globally Harmonized System. Classification is the starting point for hazard communication. It involves the identification of the hazard(s) of a chemical or mixture by assigning a category of hazard/danger using defined criteria. Most classes have Numeric Categories or Alphabetic Subcategories which indicate the severity of the hazard. Lower numbers/letters represent a higher hazard. An example is shown of the classification for Poisons, or Oral Toxicity, a health hazard we would generally refer to as Poisons. In addition to Signal Words and Hazard Statements, each classification has a pictogram associated with it. It's important to note that the pictograms may be used with more than one classification. There are 9 pictograms in the Globally Harmonized System.

3.6 Physical Hazard

Notes:

Physical hazards deal with a chemical's potentially harmful physical properties. The Globally Harmonized System includes a number of physical hazard categories and associated pictograms which we will examine in the next few slides.
3.7 GHS Physical Hazards

Notes:

GHS Physical Hazard classes include:
Flammmables, including pyrophoric substances, self-heating substances, and substances which emit flammable gases.

3.8 GHS Physical Hazards

Notes:

Additional physical hazard classes in the GHS include:

Oxidizers
Gases under pressure
And Substances which are corrosive to metal
3.9 Health Hazard

**Health Hazards**

Notes:

Health hazards produce reactions within the body. Chemicals presenting health hazards can cause one to become ill. An acute health hazard results from a single, short duration exposure to a chemical which produces an immediate ill response. A chronic health hazard results from frequent exposure over a longer period of time.

3.10 Routes of Entry

**Routes of Entry**

Notes:

Routes of entry describe the way the hazardous chemical enters the body. There are three primary routes by which chemicals can enter the body. They are:

1. Inhalation, or through breathing;
2. Ingestion (through eating or swallowing); or
3. Absorption through the skin or eyes.
3.11 Personal Protective Equipment (PPE)

Notes:

Fortunately, there are ways to protect yourself from hazard chemicals. Personal protective equipment (PPE) provides a barrier to the routes of entry.
- Masks protect against inhalation.
- Shields protect against ingestion.
- Gloves and safety glasses protect against Absorption through skin or eye contact.

3.12 GHS Health Hazards

Notes:

Health Hazards Classes in the Globally Harmonized System include:
- Corrosive or burn hazards, to skin and eyes.
- Irritation hazards to skin and eyes.
- Toxic substances, which may be harmful or fatal if ingested, inhaled or absorbed.
- And Substances which may cause cancer, organ damage, allergic reactions or other health damage.
3.13 Additional Hazard Classes

Notes:

WHMIS 2015 adopts most but not all of the hazards included in the Globally Harmonized standard.

GHS also defines an Environmental hazards group. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and Safety Data Sheets (SDSs). Including information about environmental hazards is allowed by WHMIS 2015.

WHMIS 2015 allows for some classes and categories that do not require a pictogram. These include:

- Flammable gases - Category 2
- Flammable liquids - Category 4
- Self-reactive substances and mixtures - Type G
- Organic peroxides - Type G
- Combustible dusts - Category 1
- Simple Asphyxiants - Category 1
- Serious eye damage/eye irritation - Eye Irritation - Category 2B
- Reproductive toxicity - Effects on or via lactation
3.14 Recap

Notes:

That's all for this lesson on Hazard Classes. To review the main points:

In order for a chemical to be classified as hazardous, it must have either a physical or health hazard associated with its use. A physical hazard deals with a chemical's physical properties, and a health hazard produces reactions within the body.

There are three primary routes of entry for a hazardous chemical into the body:

- Inhalation,
- Ingestion,
- Absorption through the skin or eyes

Personal protective equipment provides a barrier to the routes of entry, and helps protect you from exposure to hazardous chemicals.

Now that we've reviewed the lesson, let's check your knowledge.
4.1 WHMIS Labels

Notes:

WHMIS 2015 Labels

4.2 Objectives

Notes:

This lesson addresses the labels that are required on product containers. At the end of this lesson, you should be able to:

- Name the required elements on a supplier label;
- Identify situations that require a Workplace label.
4.3 Identifying Hazardous Chemicals

Notes:

Remember that in order for a chemical to be classified as hazardous, it must have either a physical or health hazard associated with its use. As someone who works in a facility where chemicals are present, you need to know how to protect yourself, and where to find information about the chemicals in use.

4.4 Labels and Labeling

Notes:

Labels provide important information about the product contained within. They are typically your first source of information about the chemical. The information on the label, and in the Safety Data Sheet, come from a professional evaluation of the chemical conducted by the manufacturer or importer.

Under WHMIS. 2015 legislation all controlled products in the workplace must have WHMIS.
2015 labels.
The purpose of a WHMIS 2015 label is to identify the product as a controlled product and to alert the user to the hazards and safe handling procedures. Remember the label is just an 'alert', the amount of information found on a label is limited by its size.
WHMIS 2015 legislation requires supplier labels to be written in English and French. They may be bilingual (as one label), or available as two separate labels.

### 4.5 WHMIS 2015 Labels

**Notes:**

There are two main types of WHMIS 2015 labels: supplier labels, and workplace labels.
In general, suppliers are responsible for providing supplier labels and employers are responsible for providing workplace labels or other means of identification. Employers must also ensure that all labels at their workplace are legible and that they are replaced if damaged.
A supplier label is provided by the supplier and will appear on all hazardous products received at a workplace in Canada. If the hazardous product is always used in the container with the supplier label, no other label is required. For a product that is used straight out of the bottle, such as glass cleaner, only a Supplier label, which is already on the spray bottle, is used.
A workplace label is required when:
- a hazardous product is produced (made) at the workplace and used in that workplace,
- a hazardous product is decanted (e.g., transferred or poured) into another container, or
- a supplier label becomes lost or illegible (unreadable).
For a product that is mixed in solution and then used, a Workplace label must be applied to the bottle containing the solution. Products that are mixed in buckets or equipment tanks, where the excess product is disposed of after use, do not require workplace labels. A spray bottle of a neutral cleaner requires a workplace label; using a neutral cleaner in an autoscrubber to clean the floor, does not require a Workplace label.
WHMIS 2015 defines it this way - there are two situations when a workplace label is not necessary. When a hazardous product is:
- poured into a container and it is going to be used immediately, or
- "under the control of the person who decanted it". For example, when the person who poured the product into another container will be the only person who will use it, and the product will be used during one shift, a full workplace label may not be required. However, the container must still be identified with the product identifier (name).
If the product is not used right away or if more than one person will be in control of the product, a full workplace label is required. Note that a company may have specific rules about labelling containers that exceed the WHMIS requirements.

### 4.6 Supplier Labels

#### Notes:

Every manufacturer’s label is different. You should familiarize yourself with the structure of the labels on the products used in your workplace.

1. Product identifier
2. Initial supplier identifier
3. Pictogram(s)
4. Signal word
5. Hazard statement(s)
6. Precautionary statement(s)
7. Supplemental label information

Additional WHMIS 2015 requirements for labels include:

- the pictogram, signal word, and hazard statement are to be grouped together,
- the label is clearly and prominently displayed on the container,
- the label is easy to read (e.g., you can see it easily without using any item except corrective glasses), and
- the label is in contrast with other information on the product or container.
4.7 Required Label Elements

Notes:

The WHMIS 2015 standard will require these elements on labels by June 1, 2017. Click on the markers to learn more.

- Product Identifier: The brand name, chemical name, common name, generic name or trade name of the hazardous product. Product Identifiers can be found in several places on a SealedAir DiverseyCare label. Here is the brand name. At the bottom of DiverseyCare labels is a unique number which can also be used to identify a product.

- Supplier Identification: the name, address and telephone number of either the Canadian manufacturer or the Canadian importer. Here is the mailing address.

- Pictograms related to physical and health hazards. These feature a hazard symbol within a red “square set on one of its points”.

- A signal word, either Danger or Warning, which are used to alert the reader to a potential hazard and to indicate the severity of the hazard. Warning indicates a lesser hazard than danger.

- A hazard statement, or concise statement of the danger, such as “May be harmful if swallowed.”

- And a Precautionary Statement, or do’s and don'ts to protect yourself when working with the substance, such as “Keep away from heat and flame.”

- Supplemental Information: some supplemental label information is required based on the classification of the product. For example, information about precautionary actions, hazards not yet included in the GHS, physical state, or route of exposure. This information must not contradict or detract from the standardized information.
4.8 Workplace Label Details

Notes:

It is anticipated that a workplace label will require the following information, although requirements may differ in your local area.

- Product name, which must match the SDS product name.
- Safe handling precautions, which may include pictograms or other supplier label information.
- A reference to the SDS, if available.

Workplace label requirements fall under your provincial or territorial jurisdiction, or under the Canada Labour Code if you work in a federally regulated workplace. Again, watch for confirmation, updates, or changes to these requirements when the WHMIS regulations in your jurisdiction are updated.

4.9 Recap

Notes:
WHMIS 2015

Hazardous chemicals are required to be labeled, and even though each manufacturer’s label is different, all are required to contain these elements:

- Product Identifier
- Supplier Identification
- Pictograms related to physical and health hazards
- A signal word, either Danger or Warning.
- A hazard statement,
- A Precautionary Statement
- Supplemental Information as needed

Additionally, WHMIS 2015 requires that labels are available in both French and English, are easy to read, and appear prominently on the product container.

5.1 Safety Data Sheets

Notes:

Safety Data Sheets
5.2 Objectives

Objectives

In this lesson you will learn to:

Use the Safety Data Sheet (SDS) to locate important information about a product.

Notes:

This lesson will help you locate desired information about a product in its Safety Data Sheet (SDS).

In this lesson you will learn to:

- Use the Safety Data Sheet to locate important information about a product.

5.3 Safety Data Sheets

Notes:

In order to perform your job efficiently, productively and safely, you need to know about the products that you use and how to dispense, handle and dispose of them safely. The Safety Data Sheet, or SDS, is the recognized and required document for information for each chemical product used in your facility. SDSs are the same as MSDSs, or Material Safety Data Sheets. The name recently changed to comply with the Globally Harmonized System; the purpose and information contained on Safety Data Sheets remains the same. Every product that is classified as a “hazardous product” under WHMIS that is intended for...
use, handling or storage in a workplace in Canada must have an SDS.

Employers are required to make sure that all hazardous products have an up-to-date SDS when it enters the workplace. The SDSs must be readily available to the workers who are exposed to the hazardous product, and to the health and safety committee or representative. SDSs are required to be accurate at the time of sale. Suppliers will be required to update an SDS when the supplier becomes aware of any "significant new data".

This new definition means that an SDS must be updated when there is new information that changes how the hazardous product is classified, or when there are changes to the way you will handle or store the product, or protect yourself from the hazards of the product.

Suppliers will be required to update the SDS within 90 days of becoming aware of the new information. If you purchase a product within this 90 day time period, the supplier must inform you of the significant new data and the date on which it became available in writing, which is replacing the “3 Year Update Rule.”

5.4 Where Can An SDS Be Found?

Notes:

Where Can An SDS Be Found?
An SDS may be found in a binder, in a collection of laminated cards or printouts, or on a computer.

SealedAir has prepared an SDS for each of its products and makes these available through a telephone call to 1-888-352-2249 or via the website sds.sealedair.com.
5.5 SDS Information

Before you use any chemical product, you must read the SDS to find out what safety precautions are needed. By reading the SDS beforehand, valuable time is saved in the event of an accident.

While each SDS may look a bit different, they all must provide the same information, organized in 16 sections according to the WHMIS 2015 standard. Basically, the SDS informs you on how to safely handle and store the chemical. WHMIS 2015 requires that the SDS provides information on both the strongest dilution available, along with the undiluted, or concentrated form of the chemical. You will see this in the sections on Hazards, First Aid, and Exposure Controls.

5.6 Identification

Identification

Notes:

Identification
In the Identification section, look for the product name, product use, SDS number, the manufacturer's address, validation date and an emergency phone number.

5.7 Hazards Identification

Notes:

Hazards Identification
The Hazards Identification section contains much of the information from the Globally Harmonized System, such as a list of the GHS Hazard classes and categories which have been assigned to the chemical; pictograms of related physical and health hazards; Hazard statements and Precautionary statements; short description of the hazards; typical ways that users may come into contact with the chemical; potential health effects; and symptoms of overexposure, when applicable.

5.8 Composition / Ingredients
Notes:

Composition/Ingredients
The Composition and Information on Ingredients section lists any chemical substance that contributes to the hazard classification of the product.

5.9 First Aid Measures

First Aid Measures

Important information on first aid and emergency medical procedures are provided in the First Aid Measures section. They include:

- What to do if you get the chemical in your eyes;
- What to do if you get it on your skin,
- What to do if you breathe the product,
- What to do if you swallow the product; and
- What medical conditions are aggravated by exposure to the product.
5.10 Fire-Fighting Measures

Fire-Fighting Measures

Notes:

Fire-Fighting Measures

Fire-fighting measures list fire and explosion hazards and provides instructions for fire-fighting measures.

5.11 Accidental Release Measures

Accidental Release Measures

Notes:

Accidental Release Measures

For safe spill or leak clean-up steps and proper waste disposal, look in the Accidental Release Measures section.
5.12 Handling and Storage

Handling and Storage

The Handling and Storage Section provides information that may also appear on the product label. It explains how to handle and store the product.

5.13 Exposure Controls/Personal Protection

Exposure Controls/Personal Protection

Under normal operating conditions, protective equipment, such as footwear, safety glasses, gloves or engineering controls such as the use of a local exhaust system, may be necessary to avoid harmful exposure. The Exposure Controls/Personal Protection section lists the recommended equipment for standard operating procedures.
5.14 Physical/Chemical Properties

**Physical/Chemical Properties**
The Physical and Chemical Properties section lists laboratory measurements for the product. For example, some of these may be of use for product identification and safe handling.

5.15 Stability and Reactivity Data

**Stability and Reactivity Data**
The Stability and Reactivity Data section shows how stable the product is, what can contribute to the instability of the product and what other chemicals are incompatible.
5.16 Toxicological Information

Notes:

**Toxicological Information**
Any known or suspected acute or chronic toxicity caused by the product is reported in the Toxicological Information section.

5.17 Ecological Information

Notes:

**Ecological Information**
The Ecological Information section reports the impact of the product spills or other emissions on the environment. This section and those that follow may be blank, as WHMIS2015 legislation requires that the Headers are present, but no data is required.
5.18 Disposal Considerations

Notes:

Disposal Considerations
Precautions needed to dispose of a product are provided in the Disposal Considerations section.

5.19 Transport and Regulatory Information

Notes:

Transport and Regulatory Information
Two sections include information on transportation and other regulations by the federal governments of the United States and Canada, as well as by states and provinces that have enacted additional regulations. The information in these sections is also available on the product package.

The Transport Information section refers customers to the bill of lading for DOT and TDG classifications. Detailed information on transporting specific products can be found on this website. You must use Internet Explorer to access the site:
http://naextranet.diversey.com/dot/

Regulatory information includes information on regulations including the US EPA Toxic Substances Control Act (TSCA) and the Canadian Environmental Protection Act (CEPA).

### 5.20 Other Information

**Other Information**

The Other Information section carries other information that the manufacturer wishes to provide.

### 5.21 Recap

**Recap**

- Identify the required elements in a Safety Data Sheet.
- Be able to locate the desired information in a Safety Data Sheet.

**Notes:**

**Recap**
That's all for this lesson on Safety Data Sheets. At this point you should be able to identify the elements of a Safety Data Sheet, and be able to locate the desired information on an SDS.

6.1 Communication & Training Requirements

Notes:
Communication and Training Requirements

6.2 Objectives

Notes:
This lesson covers the remaining elements of the WHMIS 2015 program: The chemical inventory,
training requirements and the written program. You will learn to:

- Describe the purpose of a hazardous chemical inventory
- List the training requirements for hazardous chemicals, and
- Identify the purpose of a written Hazard Communication Program

### 6.3 Hazardous Chemical Inventory

A hazardous chemical inventory is a listing of hazardous chemicals that are used or stored within the facility. This inventory must include:

- All hazardous chemicals used in the facility;
- Hazardous chemicals taken off-site for use in other locations; and
- Hazardous chemicals stored away from the main plant.

This inventory provides information on chemicals that have physical or health hazards in an employee's immediate work area and also surrounding areas.
6.4 Hazardous Chemical Training

Notes:

In Canada, if a workplace uses hazardous products, there must be a WHMIS program in place. Workers must be educated and trained so they understand the hazards, and know how to work safely with hazardous products.

All workers who work with a hazardous product, or who may be exposed to a hazardous product as part of their work activities must learn about the hazard information for these products. The hazard information should include the information received from the supplier, as well as any other information that the employer is aware of about the use, storage and handling of each product.

Employees should be able to answer these questions for every hazardous product they work with:

- What are the hazards of the product?
- How do I protect myself from those hazards?
- What do I do in case of an emergency?
- Where can I get further information?
6.5 Written Program

Notes:

The WHMIS 2015 program will be specific to the workplace, but the major elements of the program will be similar to the checklist shown below.

The employer must use WHIMS 2015 information (SDS, label) and other workplace knowledge to develop written safe work procedures and emergency procedures. The workers must be educated about the hazards and trained in safe work procedures.

KEY WHMIS PROGRAM ELEMENTS

- Assign responsibility
- Establish inventory of controlled products
- Meet SDS/label requirements
- Establish workplace controls
- Establish emergency procedures
- Provide worker education and training
- Evaluate WHMIS program
6.6 Where is the Written Program?

Notes:

Do you know where the company's written program is located? When you find out, write down the location so it's easily accessible.

You should also know the location of:
- Safety Data Sheets (or how to access them); and
- The Chemical Inventory.

6.7 What is YOUR Responsibility?

Notes:

Even though it's the company's responsibility to maintain the WHMIS 2015 program, employees are the ones who work near the chemicals and should be aware of the risks involved. Therefore, it's to every employee's advantage to help keep the program current, by updating the chemical
inventory, reading labels and SDSs before working with a new chemical, and attending and using the training you receive.

### 6.8 Recap

**Recap**

Employers are required to have:

- A written WHMIS Program.
- An inventory of hazardous chemicals.
- Training on the WHMIS 2015 Program.

**Notes:**

To summarize this final lesson:

Employers are required to keep a written WHMIS Program, an inventory of all the chemicals used in the facility, and provide training on the chemical hazard communication program for employees.