WHMIS 2020 V4

1. WHMIS 2020

1.1 Title

Notes:

Welcome to Greater Essex County District School Board WHMIS training session.

WHMIS is governed by Ontario Regulations 860 and 168, both made under the *Occupational Health and Safety Act*.

1.2 What is WHMIS?

Workplace Hazardous Materials Information System (or WHMIS) is a chemical management safety program. WHMIS enables employees to work safely around controlled products by educating them about the dangers of these products and the preventative measures to take when working with controlled products.

WHMIS is built on three main elements:

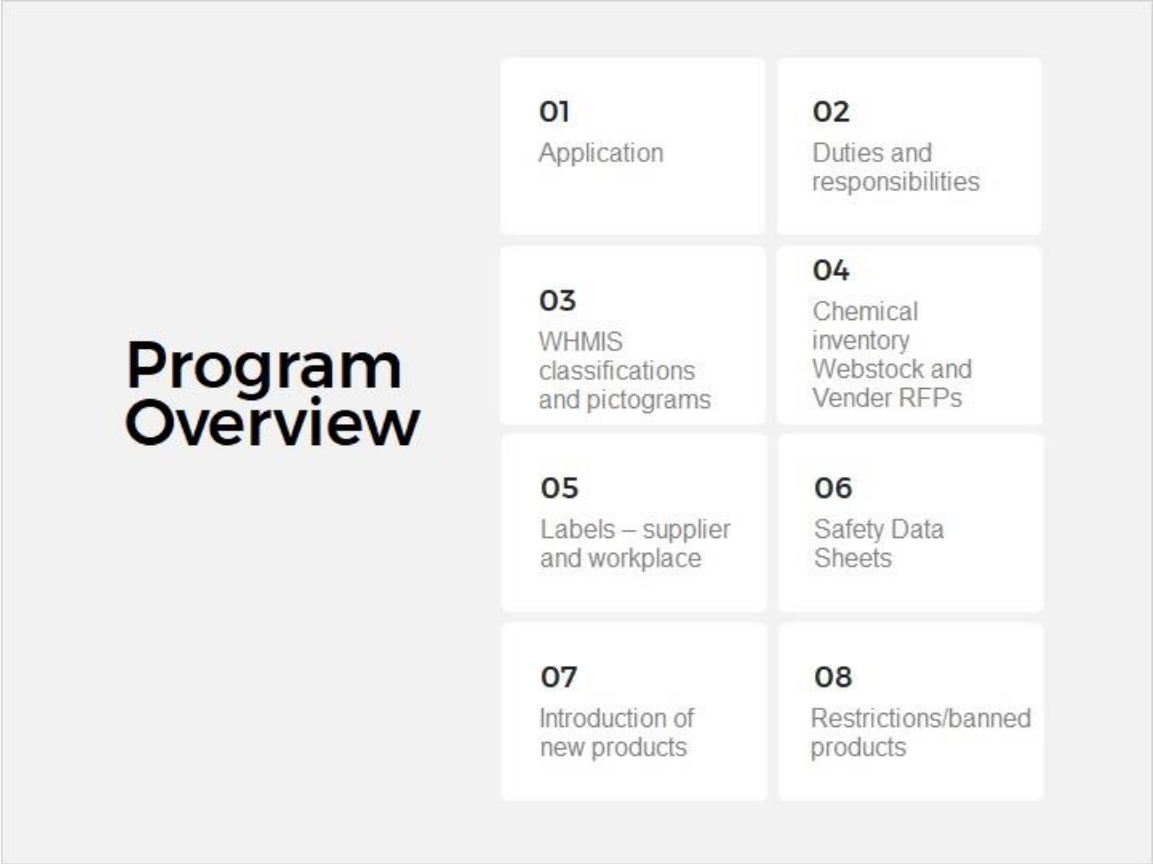
1. **Product Labels,** which must be placed on all controlled products in the workplace.

2. **Safety Data Sheets** (also known as SDS) are documents that contain all necessary information about a controlled product.

3. **Worker Education Programs** ensure that workers receive the proper training to work safely. This online training is part of your employer's worker education program.

The Greater Essex County District School Board has developed its WHMIS Management Program. It can be found in the red binder(s) in the main office of all Board sites.

1.3 Program Overview



Notes:

In this training session, we will be reviewing:

- The application of WHMIS
- Duties and responsibilities
- The WHMIS classification of controlled products and their associated pictograms
- How the Board tracks chemicals that are used in an inventory system - Webstock and Vender RFPs
- Supplier labels and workplace labels, and when each should be used
- Safety Data Sheets and what they can tell us about controlled products
- The process for the introduction of new products into the Board, and
- What products or chemicals are restricted or banned from use by Board employees

1.4 Application

WHMIS legislated requirements apply where any WHMIS controlled product is likely to be present, stored, used, or handled.

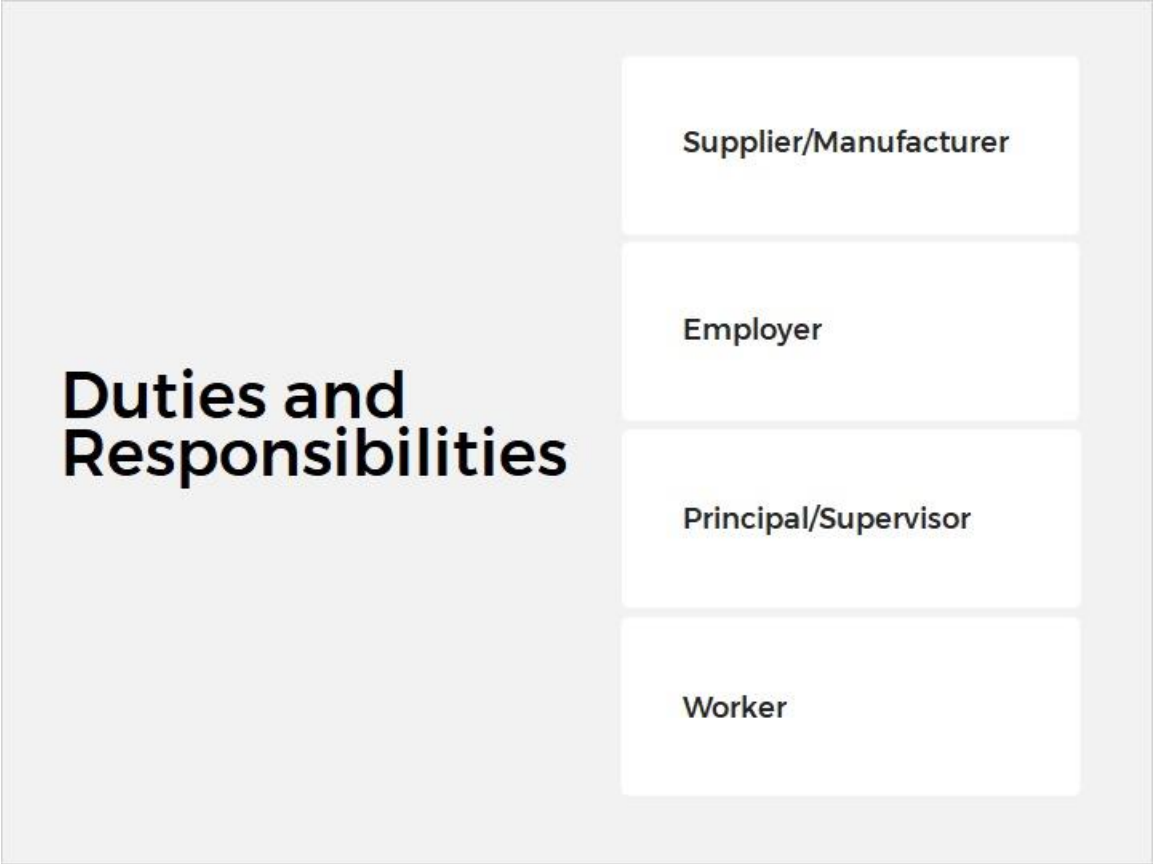
These requirements also apply to all supervisors, workers and all contractors working on Board property.

WHMIS does not apply to:

- Manufactured articles or products
- Cosmetics, drugs, or food
- Pesticides, and
- Hazardous waste

These products are handled under their own legislation.

1.5 Duties and Responsibilities



Notes:

Click on the tabs to learn about the duties and responsibilities of the supplier/manufacturer, and Board employees.

Suppliers and Manufacturers must:

- Determine the hazard and classification of the product
- Package the product to include supplier labels with the required information, and
- Provide the consumer with a current Safety Data Sheet

The Employer (in this case, the Board) has developed, implemented, and maintains a WHMIS management program and ensures it is present and readily available at each Board site. Remember, this program is stored in a red binder and can be found in the main office.

The Board also has the duty to ensure that:

- All WHMIS controlled products are labelled with either a supplier or workplace label
- Workers have access to Safety Data Sheets, and
- Workers are trained in safe work practices

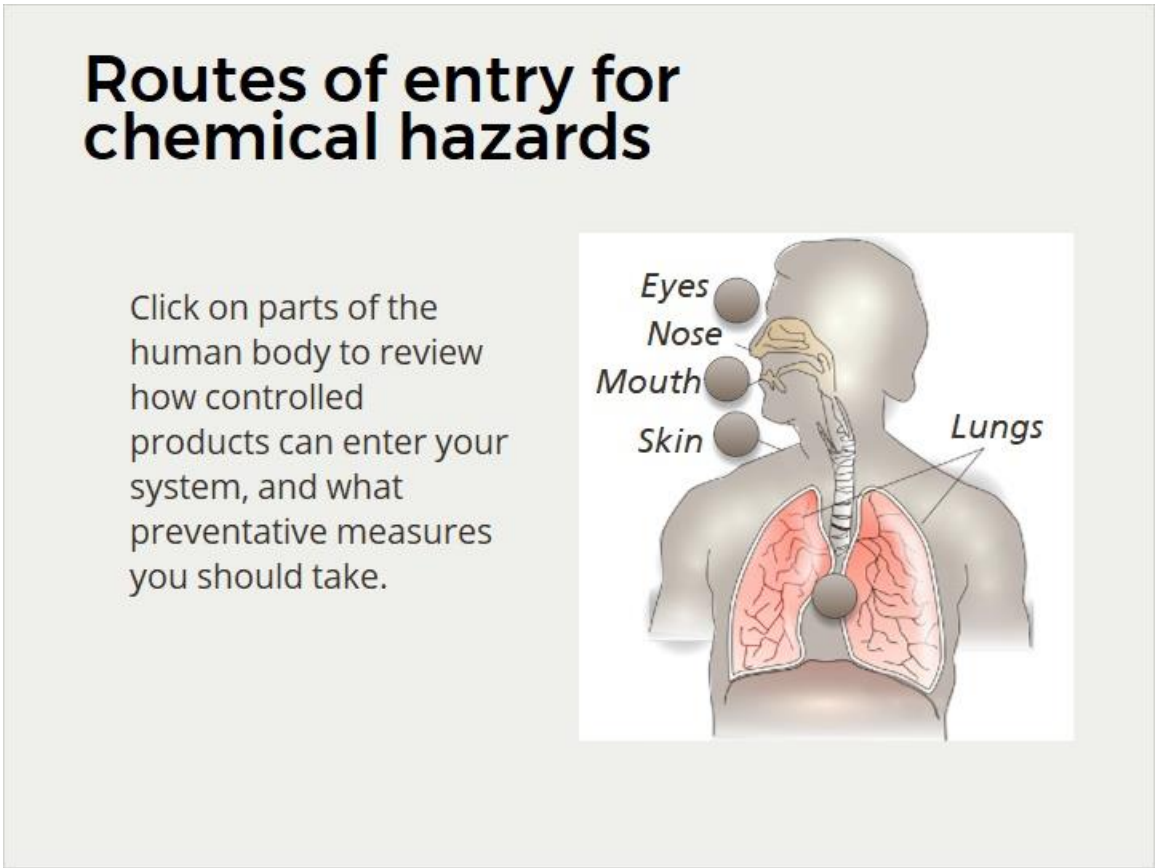
A Supervisor must ensure that:

- Workers are aware of chemical hazards in the workplace and reference the Safety Data Sheet as required
- Workers understand and comply with their duties and responsibilities under the WHMIS program, and
- Proper Personal Protective Equipment is provided, used, and every reasonable precaution is taken to protect the health and safety of the worker

A Worker has the duty to:

- Comply with the requirements of the WHMIS Program and this training
- Be aware of chemical hazards and reference the Safety Data Sheet, as required
- Help ensure that all controlled products are properly labelled in the workplace
- Participate in WHMIS training, as required
- Wear personal protective equipment as prescribed
- Not bring any chemical products into the workplace

1.6 Routes of entry for chemical hazards



Notes:

Click on parts of the human body to review how controlled products can enter your system, and what preventative measures you should take. Please visit all routes of entry before continuing the course.

Eyes: Controlled products can be absorbed through your eyes, and even enter your bloodstream. Remember to wear a face shield or goggles if required, and always wash your hands when handling any hazardous materials.

Lungs: Inhalation of chemicals is a common occurrence. Some chemicals cannot be detected too easily while others have odours and may leave a taste in your mouth. Make sure proper ventilation is being used as required, even if you can't smell the product.

Mouth: You can ingest chemicals, especially if you don't wash your hands before eating or drinking. The best way to prevent ingestion of chemicals is to avoid eating, drinking, or smoking in the work area.

Skin: The best way to prevent chemicals from entering your skin is to avoid contact. Always wear the proper personal protective equipment, such as protective gloves, an apron, or boots whenever handling hazardous materials.

1.7 Hazard Groups

Notes:

A controlled product that is regulated under WHMIS is any product that can be included in any one of the following three major hazard groups: Health Hazards, Physical Hazards, and Environmental Hazards. There are then classes and categories under each of these three groups.

Health Hazards Classes

Examples of Health Hazards Classes include:

- Acute toxicity
- Skin corrosion/irritation
- Serious eye damage/eye irritation
- Respiratory sensation/skin sensitization

- Germ cell mutagenicity
- Carcinogenicity
- Reproductive toxicity
- Specific target organ toxicity - single exposure
- Specific target organ toxicity - repeated exposure
- Aspiration hazard

Physical Hazards Classes

Examples of Physical Hazards Classes include:

- Explosives
- Flammable gases, aerosols, liquids, solids
- Oxidizing gases, liquids, solids
- Self-reactive substances and mixtures
- Pyrophoric liquids and solids
- Self-heating substances and mixtures
- Organic peroxides
- Corrosive to metals
- Gases under pressure
- Substances and mixtures which, when in contact with water, emit flammable gases
-

Environmental Hazards Classes

Environmental Hazards Classes are products that are hazardous to the aquatic environment.

1.8 Pictograms

Notes:

Pictograms are graphic images that immediately show the user of a hazardous product what type of hazard is present. Most pictograms have a distinctive red border with the symbol that represents the potential hazard within. Together, the symbol and the border are referred to as a pictogram.

These pictograms can be found on all product supplier and workplace labels, as well as their associated Safety Data Sheets.

To work safely around a controlled product you must be able to identify the hazards.

Click on the pictograms below to learn about the hazards for each class and to review some examples of controlled products that belong to each.

Flammable

This pictogram identifies flammable or combustible solids, liquids or gases. These products may explode, and may burn at room temperature or when heated.

Examples of flammable products include:

- Gasoline
- Acetone
- Mineral spirits, and
- Solvents

Precautions: Store away from oxidizing products and heat sources. Do not smoke near flammable products.

Oxidizing

This pictogram identifies oxidizing products that may cause other products to burn or explode by providing oxygen. These products may burn your skin and eyes on contact.

Examples of oxidizing products include:

- Hydrogen peroxide, and
- Oxygen tanks

Precautions: Store away from flammable products and away from heat sources.

Compressed Gas

This pictogram tells you that the gas inside the cylinder is under pressure, and that the cylinder may explode if heated or damaged. A sudden release of high pressure gas streams may puncture your skin and cause a fatal embolism.

Examples of compressed gas products include:

- Propane
- Acetylene
- Helium
- Fire extinguishers, and
- Spray paint

Precautions: Transport and handle all compressed gas containers with care, make sure cylinders are properly secured, and store away from sources of heat and fire. Large containers must be transported with their caps on.

Corrosive

This pictogram warns that corrosive products will burn your eyes and skin on contact and will burn tissues of your respiratory tract if inhaled.

Examples of corrosive products include:

- Sodium hydroxide
- Hydrochloric acid
- Nitric acid, and
- Battery acid

Precautions: Store acids and bases in separate areas, avoid inhaling these products, and avoid contact with skin and eyes.

Explosive

This pictogram identifies products that may cause explosions when heated.

Examples of explosive products include:

- Nitrogen

Precautions: Store away from heat or fire

Health Hazard

This pictogram identifies health hazard products that may cause adverse health effects.

Examples of health hazard products include:

- Trouble Shooter by 3M
- Aquarian C436 (cooling water treatment)

Precautions: These products can cause severe skin burns and eye damage. Do not handle until all safety precautions have been read and understood.

Toxic

This pictogram tells you that excessive contact with a controlled product may cause death or serious injury if inhaled, swallowed, or absorbed through the skin. It may also irritate the skin, eyes and breathing passages during a short-term exposure.

Examples of toxic products include:

- Chlorine

Precautions: Avoid inhaling gas or vapours, and avoid contact with skin and eyes. Do not eat, drink or smoke near these products and make sure to wash your hands after handling toxic products.

Harmful/Irritant

- This pictogram identifies harmful/irritant products that may cause skin, eye, and respiratory irritation.

Examples of harmful/irritant products include:

- Attac Floor Stripper by Diversey
- Bravo 1500 by Sealed Air

Precautions: These products can cause severe skin burns. Avoid contact with eyes, skin and clothing.

Environmental Hazard

This pictogram identifies environmental products that may cause long term adverse effects in the environment.

Examples of environmental products include:

- Stainless Steel Cleaner by Holland

Do not allow this material to drain into sewers or water supplies, as it is a marine pollutant.

Oxidizing (Slide Layer)

Oxidizing

This pictogram identifies oxidizing products that may cause other products to burn or explode by providing oxygen. These products may burn your skin and eyes on contact.

Examples of oxidizing products include:
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- Oxygen tanks

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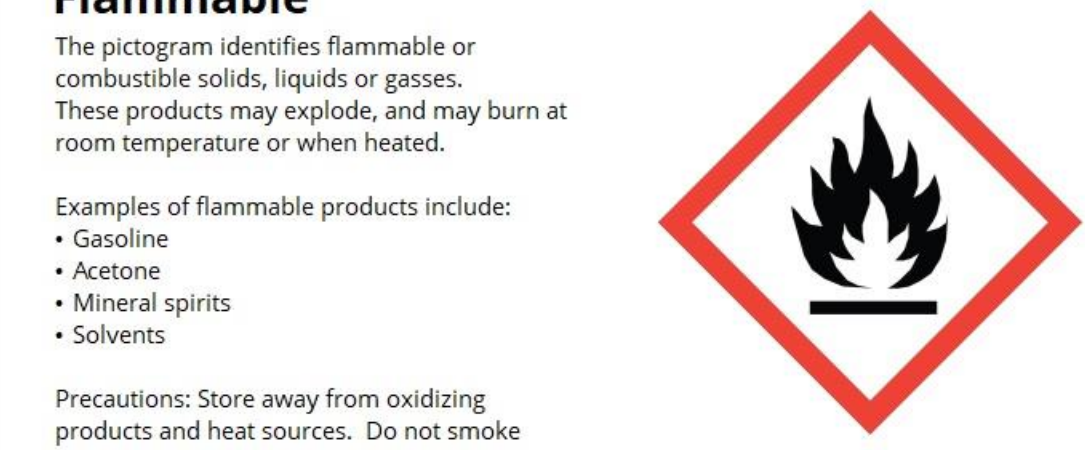

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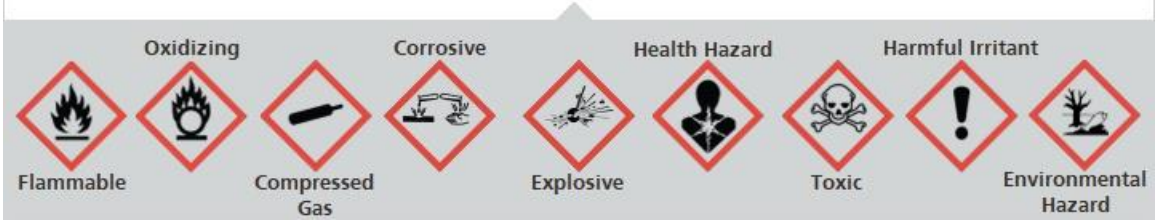

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Examples of toxic products include:
- Chlorine

Precautions: Avoid inhaling gas or vapours, and avoid contact with skin and eyes. Do not eat, drink, or smoke near these products and make sure to wash your hands after handling toxic products.

Health Hazard (Slide Layer)

Harmful/Irritant (Slide Layer)

Environmental Hazard (Slide Layer)

1.9 Chemical Inventory

Notes:

What is our Board's Chemical Inventory?

A typical elementary school has approximately 260 WHMIS regulated chemical products.

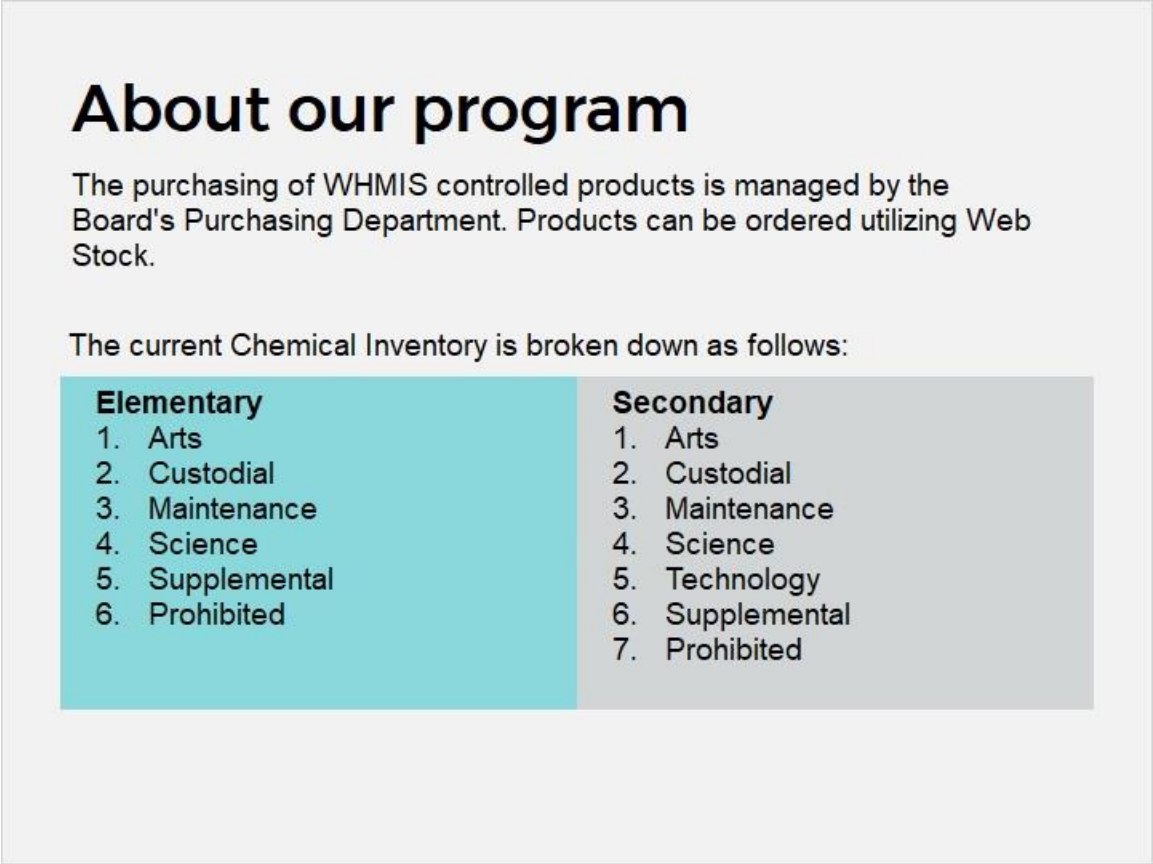
A typical secondary school has approximately 2400 regulated chemical products.

What are some of the most common chemical products used at the GECDSB?

Stride Fragrance Free Neutral Cleaner

Virex II Disinfectant Cleaner

1.10 About Our Program



Notes:

To ensure that the Board meets all WHMIS requirements, the purchasing of WHMIS controlled products is managed by the Purchasing Department. Approved products can be ordered utilizing Web Stock. The current chemical inventory can be found on Web Stock or the red binder(s) in the main office.

The chemical inventory is broken down as follows.

Elementary categories are:

- Arts
- Custodial
- Maintenance
- Supplemental
- Prohibited

Secondary categories are:

- Arts
- Custodial
- Maintenance
- Science
- Technology
- Supplemental
- Prohibited

1.11 Supplier Label

Notes:

As part of WHMIS regulations, suppliers of hazardous materials are required to attach a supplier label to all products prior to shipping them to a workplace.

All supplier labels must contain:

- The name of the product
- The supplier or manufacturer's name and address
- An emergency phone number
- The WHMIS classification and pictogram
- The potential risks and hazards of product use and precautionary measures to be taken
- First aid and proper usage information, and
- Safety Data Sheet availability information

1.12 Workplace Label

Workplace Label

All WHMIS products must be properly labelled.

Workplace labels can be obtained through your Supervisor and are required when:

- Removing a product from its original container
- Original label is no longer legible

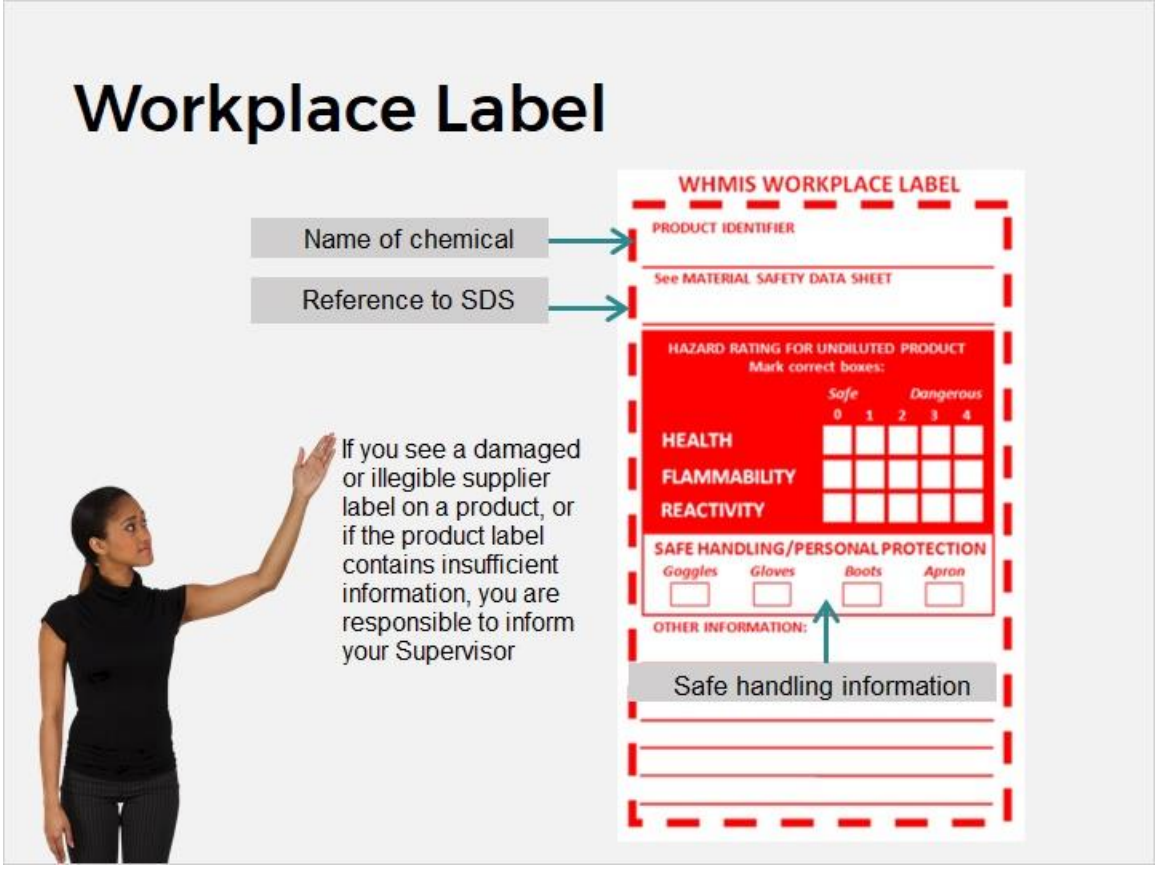
Notes:

All WHMIS controlled products must be properly labeled.

Workplace labels can be obtained through your Supervisor.

- In some circumstances, you may be required to apply a workplace label to a controlled product.
  A workplace label is only needed if:
  The controlled product is being transferred from its original container into a workplace container, and
  The original supplier label is damaged or no longer legible.

1.13 Workplace Label



Notes:

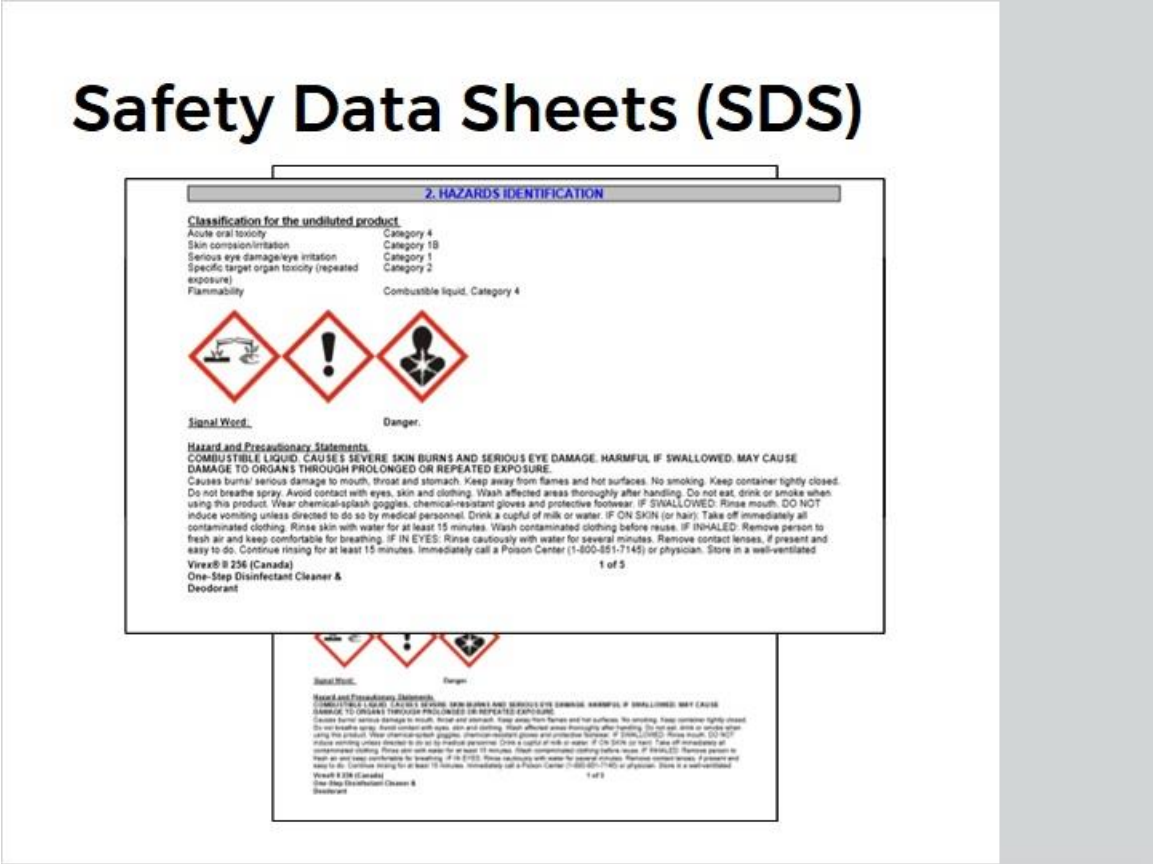
A workplace label must contain:

- The name of the chemical
- A reference to the Safety Data Sheet, and
- Safety handling information

Safe handling information can be obtained from the original product label or from the Safety Data Sheet.

If you see a damaged or illegible supplier label on a product, or if the product label contains insufficient information, you are responsible to inform your Supervisor.

1.14 Safety Data Sheets (SDS) Sections 1-2



Notes:

A supplier label or a workplace label will provide you with important information about a controlled product. However, for in-depth information, you must look at the Safety Data Sheet. The Safety Data Sheet should be your main source of information about a controlled product.

A Safety Data Sheet must contain all the required information divided into sections.

Section 1 identifies the supplier, the chemical and the product name.

It contains:

- All names used to identify the product
- Emergency information and telephone number, and
- The manufacturer's information

Section 2 identifies the hazards of the product including the WHMIS pictogram.

Section 3 identifies the composition of the chemicals present in the product and their concentration.

Section 4 provides the first aid measures to be used for acute over-exposure to the product. This will address exposure to eyes, skin, inhalation, and ingestion.

Section 5 identifies fire response measures in the event of a fire involving this product. It includes both onsite fire-fighting measures as well as information for emergency response personnel.

Section 6 provides information to deal with an accidental release of the product, such as a spill.

Section 7 addresses proper handling and safe storage requirements for the product.

Section 8 provides critical information to prevent exposure to the product including the identification of personal protective equipment and other safety measures. Remember, personal protective equipment must be provided by your supervisor and must be worn by the worker when using and handling an approved chemical.

Section 9 identifies physical and chemical properties associated with the product.

Section 10 describes reactivity hazards of the chemical and the chemical stability information.

Section 11 identifies toxicological and health effects information.

Section 12 provides information to evaluate the environmental impact of the chemical if it were released to the environment.

Section 13 provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices.

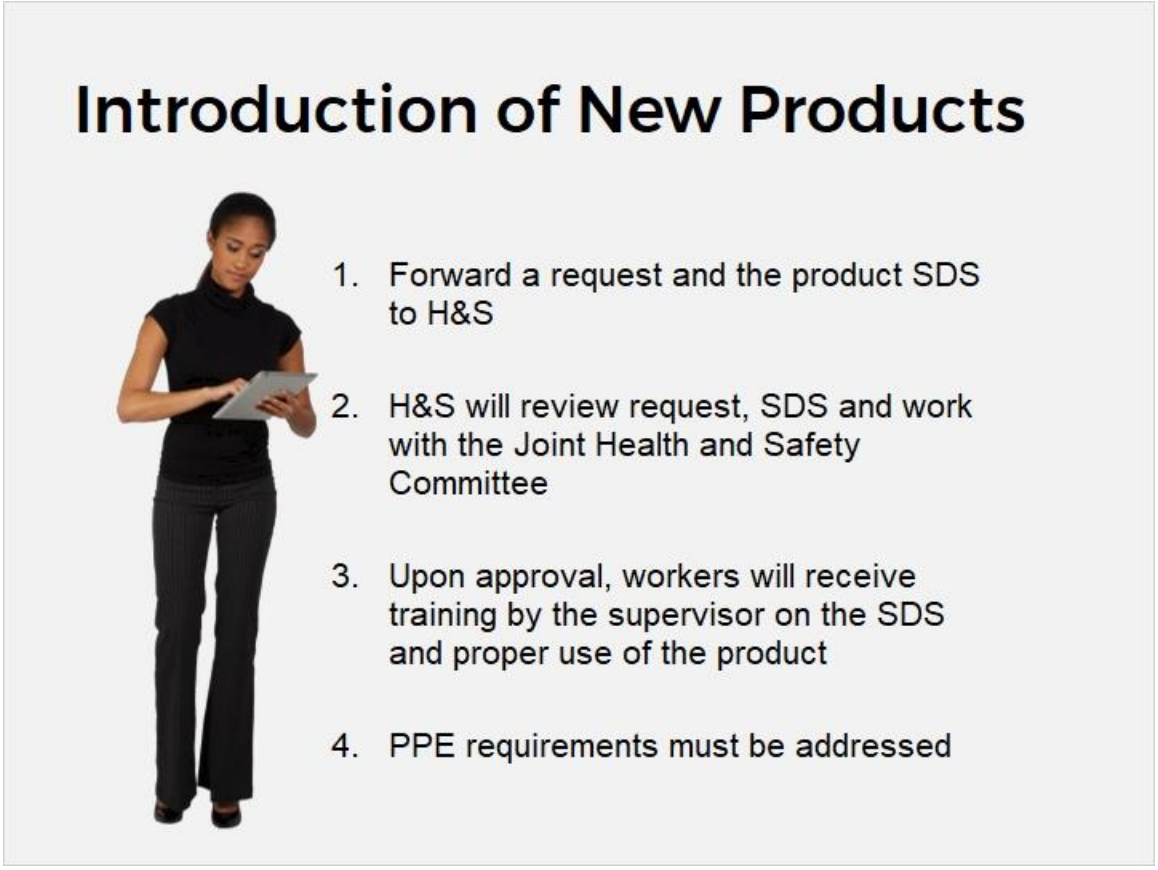
Section 14 includes guidance on transporting the product.

Section 15 provides safety, health and environmental regulations specific to the product.

Section 16 identifies the version and date the SDS was prepared, as well as any supplementary information.

It is very important that Safety Data Sheets are kept up to date.

1.19 Introduction of New Products



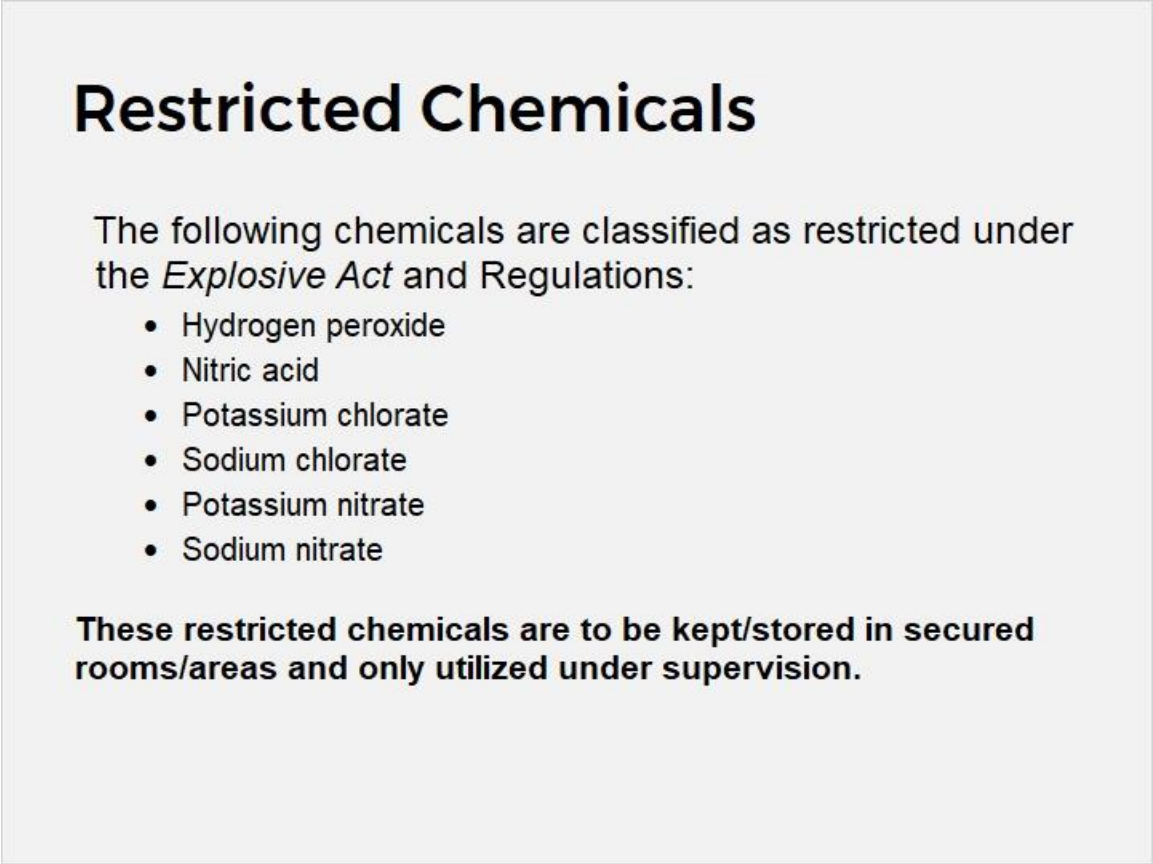
The Board's WHMIS Management Program details the application process for the introduction of new products into the workplace.

Any worker wishing to use a new product must forward a request and the product Safety Data Sheet to the Health and Safety Office.

The Health and Safety Office will review the request, along with the Safety Data Sheet and work with the Joint Health and Safety Committee to determine suitability and identify any personal protective equipment requirements.

When the product is approved, the supervisor must train all workers using the product on the contents of the Safety Data Sheet and the proper use of the product. The supervisor must also provide any prescribed personal protective equipment.

1.20 Restricted Chemicals



Notes:

The following chemicals are classified as restricted under the *Explosives Act* and Regulations:

- Hydrogen peroxide
- Nitric acid
- Potassium chlorate
- Sodium chlorate
- Potassium nitrate, and
- Sodium nitrate

These restricted chemicals are to be stored in secured rooms or areas and only utilized under supervision.

1.21 Banned Chemicals

Prohibited Chemicals

The Board has identified chemicals that are banned in the workplace. This has eliminated many unwanted and hazardous chemicals from our sites.

The Prohibited Chemicals List is found in the WHMIS Management Program (red binder(s)) in the main office.

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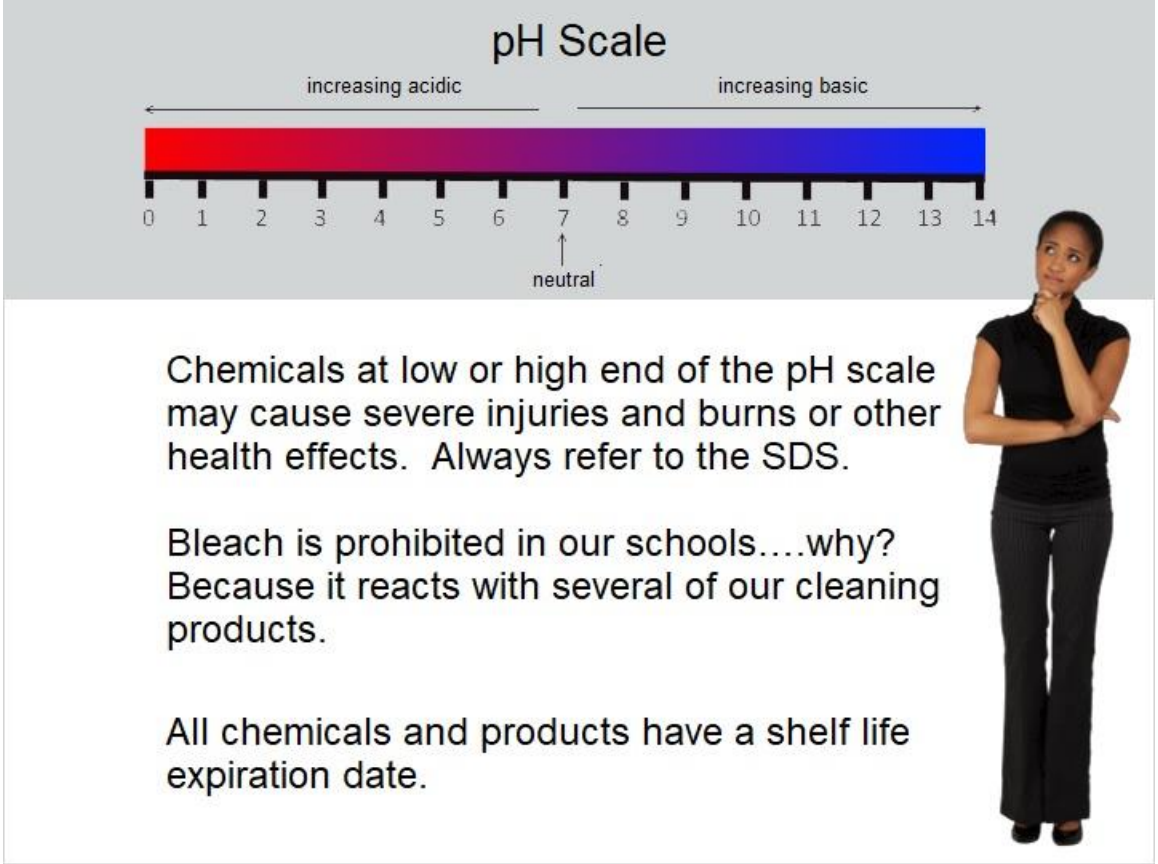
1.22 Did You Know…

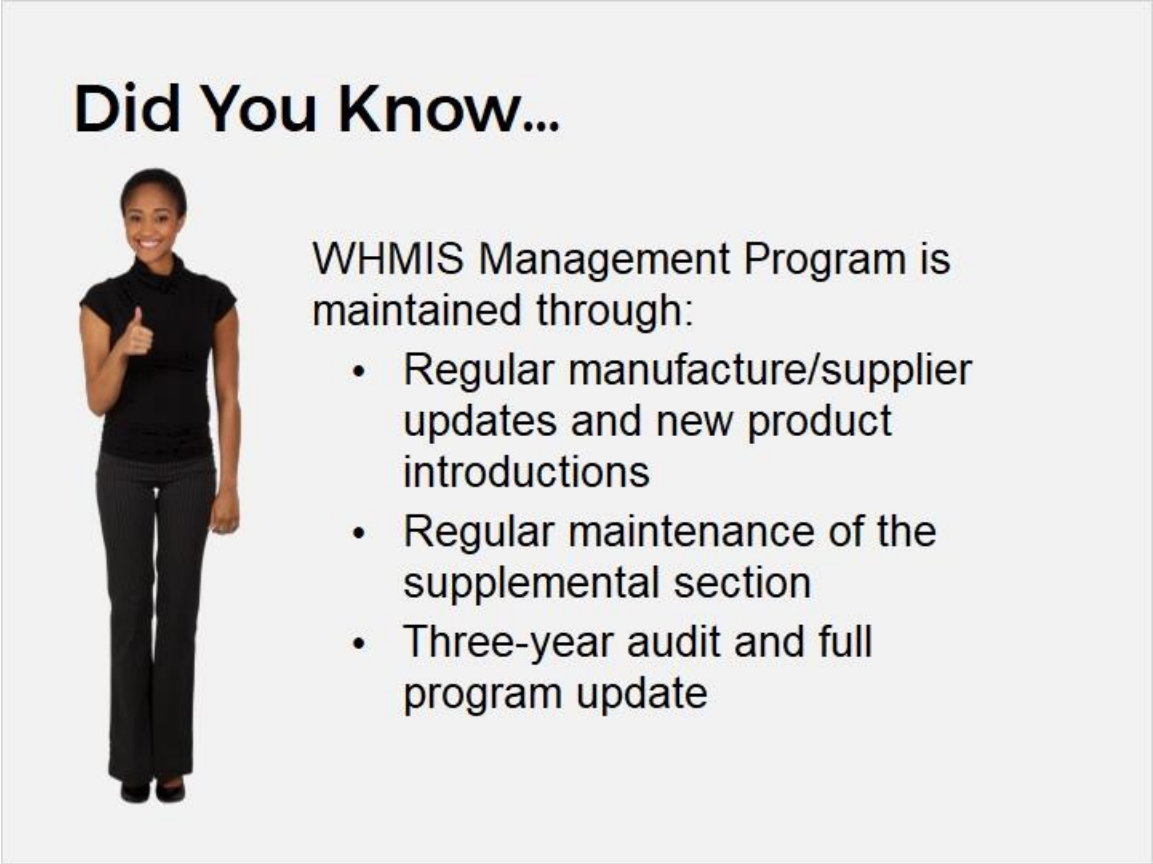


Notes:

Did you know…

- Chemicals at the low or high end of the pH scale can cause severe injuries and burns or other health effects. Check the Safety Data Sheet to find the pH of the product you are using.
- Bleach is prohibited in our schools….why? Because it reacts with several of our cleaning products.
- All chemicals and products have a shelf life expiration date.

1.23 Program Maintenance



Notes:

Did you know…

- Our WHMIS program ties into Global Harmonized Safety (GHS). That means it is a universal system of classification of labelling of chemicals.
- The WHMIS Management Program is maintained through:
  - Regular manufacture/supplier updates and new product introductions
  - Regular maintenance of the supplemental section
  - Three-year audit and full program update
- Our WHMIS training material is reviewed annually with the Joint Health and Safety Committees in compliance with Section 42 of the *Occupational Health and Safety Act*.

1.24 Reducing our Footprint

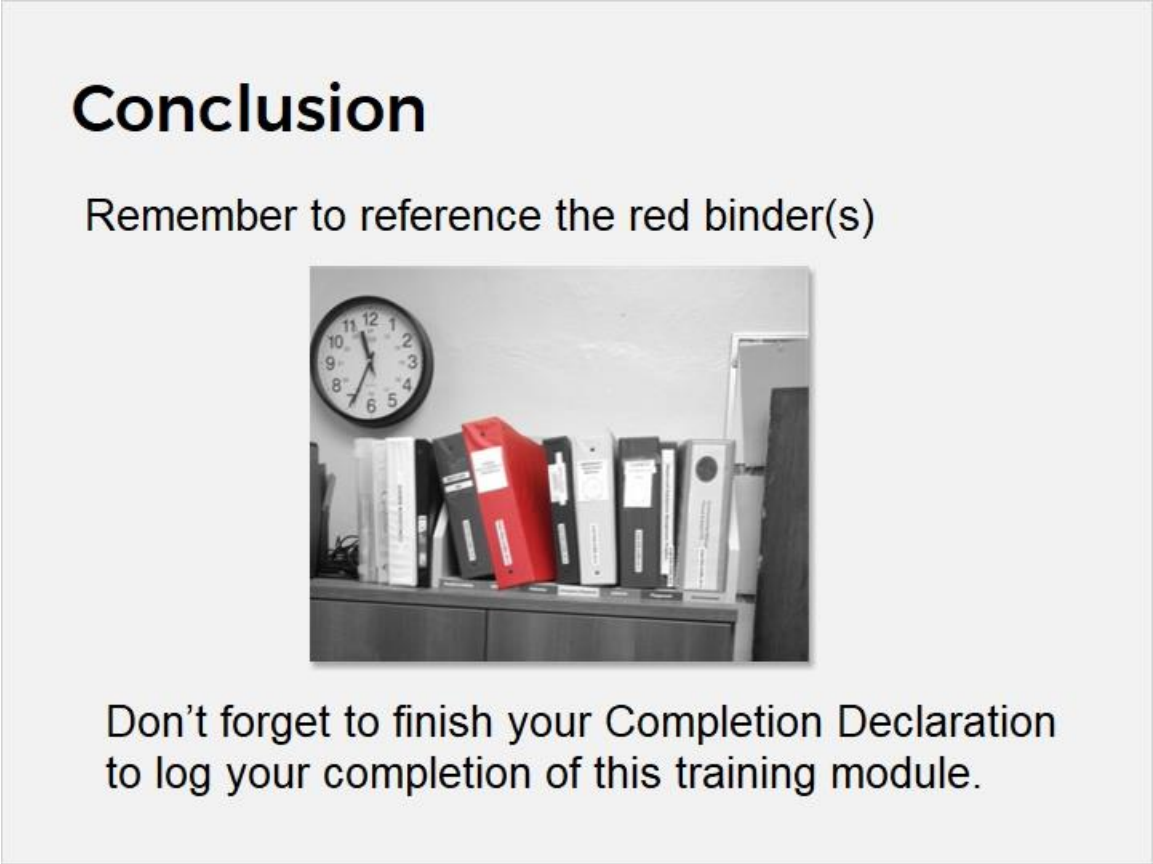
Notes:

What is the Board doing to reduce its chemical and related environmental footprint?

In the 2019-2020 school year, we reduced the Custodial chemical and SDS inventory by 46%. Our long term goal is to reduce it by 54%.

We also began right sizing the Science, Technology and Maintenance Chemical and associated SDS inventories.

1.25 Conclusion



Notes:

You should now have a better understanding of WHMIS and our WHMIS Management Program.

Remember to reference the red binder.

Don't forget to finish your Completion Declaration on Brightspace to log your completion of this training module.