

## Discussion and Notes

*Keep a copy of these safety training notes and a signed attendance sheet to verify regular safety training. Regulatory inspectors will usually request proof of safety training.*

*GHS-compliant Safety Data Sheets for every Flinn Chemical may be found online on the Flinn Canada website at [www.flinnsci.ca/sds](http://www.flinnsci.ca/sds). Access them anywhere, anytime!*

## Benefits of a Chemical Inventory

Do you know what is on your chemical shelves? One of the most practical steps any school science department can take to improve safety is to create and maintain an inventory of laboratory chemicals. The chemical inventory works hand-in-hand with Safety Data Sheets and labels to fulfill requirements of the Workplace Hazardous Materials Information System (WHMIS) 2015 and Globally Harmonized System of Classifications and Labelling of Chemicals (GHS).

### Chemical Inventory Regulations

In Canada, under the WHMIS 2015 GHS legislation, schools are required to have an accurate and up-to-date inventory of all chemicals that may present a physical or health hazard. This requirement protects the safety of teachers and staff by ensuring safe chemical management and providing best practices for the storage, handling and use of chemicals. The inventory list of hazardous chemicals serves as the focal point for, and thus integrates, all provisions of your school's hazard communication program or Chemical Hygiene Plan. These provisions include updated GHS Safety Data Sheet and labeling requirements as well as information and training that are needed to identify hazards and prevent exposure to hazardous chemicals. The chemical inventory may also be required to comply with local emergency planning, fire department and community right-to-know regulations.

### Features of the Chemical Inventory

The following minimum information must be present in the chemical inventory to comply with chemical health and safety regulations.

- Name of each chemical
- Locations where it is stored
- Amounts of the chemical

Because the chemical inventory serves to identify the hazardous chemicals to which an employee may be exposed, the name of the chemical in the inventory and the corresponding concentration or molarity, if applicable, should match the name on the container label. Also including the CAS number for each chemical in the inventory will help avoid misunderstandings when hazardous chemicals are sometimes identified using common names or synonyms. The CAS number is a unique identifier—one chemical, one number and vice versa. The storage location for each chemical container should specify the school or building, if appropriate, as well as the specific room and shelf or cabinet. The chemical inventory should provide a mechanism to easily update the amounts of chemicals removed for use during the year or added as a result of purchase. The ability to track the history of use of a chemical is really essential for solving the main problem associated with chemical inventories in schools—how to identify chemicals that are seldom, if ever, used.

A Safety Data Sheet (SDS) is required for every hazardous chemical. An ideal chemical inventory will therefore provide a means to verify or check off that the school has the SDS and whether the SDS has been updated with new hazard information. The SDS may be linked electronically to the inventory in an online chemical inventory system. Additional features may be incorporated into the chemical inventory system to improve chemical management and hazard communication. These include how to store chemicals in a chemically compatible and safe manner; special storage recommendations for flammable, corrosive and highly toxic chemicals; and whether licensed disposal is required for a chemical. Summarizing GHS hazard information, such as pictograms and hazard statements, in the chemical inventory is very helpful when it comes time to label transfer containers or solutions that are prepared for use in the lab.

*See the Safety Reference Section in your Flinn Scientific Canada Catalogue/Reference Manual for a detailed discussion of how to take a chemical inventory, including a helpful Inventory Planning Checklist.*

## **Taking the Chemical Inventory**

- Plan ahead to make sure that teachers and staff have returned all chemicals to appropriate storage locations in the chemical storeroom and/or safety cabinets.
- Undertake and complete as much storeroom housekeeping as possible prior to the inventory so you will not be faced with obstacles that could lead to an accident.
- Assemble the equipment that will be needed in each location. You should have a ladder and flashlight as well as supplies to deal with potential emergencies, including spill control materials, secondary containers (like plastic bags, buckets or metal cans) and a fire extinguisher.
- Never work alone! At least two people should work together to inspect and count containers and record the necessary information for each chemical in the designated storage areas. We urge against recruiting students for this task.
- Plan the inventory for a time when you will be free of interruptions that might distract you at a critical moment. Notify the administration in advance of the chemical inventory.
- Dress appropriately and wear personal protective equipment, including chemical-resistant goggles, gloves and apron.
- Be prepared to immediately remove broken or contaminated bottles to a safe and temporary location.

## **Improving Chemical Inventory Management**

Requirements and costs associated with disposal of contaminated, unwanted or unused chemicals are serious concerns for many schools. Lack of chemical inventory procedures, purchasing chemicals in large package sizes and teacher turnover or reassignment are major factors contributing to this problem. Maintaining an up-to-date inventory will help you eliminate excess or unneeded chemicals. Placing a reorder quantity in the chemical inventory will also enable you to make better purchasing decisions, which will, in turn, reduce both chemical waste and the burden of hazardous waste disposal. All chemicals should be date-labeled, and this information should be entered in the inventory notes to ensure that chemicals are used up according to “first in, first out” principles. Use the chemical inventory system to keep a detailed log of chemical use throughout the science department for at least one academic year.

## **Flinn Canada Chemventory™ Includes SDS and GHS Label Printing**

Flinn Scientific Canada has developed a cloud-based chemical inventory management system to help you comply with WHMIS 2015 GHS requirements. Flinn Canada Chemventory™ includes all of the essential and special features described. The program will allow you to maintain an accurate inventory of laboratory chemicals while permitting multiple users to access the information in the database from multiple locations and multiple devices. New Flinn Safety Data Sheets have been linked electronically to each Flinn chemical in the online database format, providing a convenient and easy way to manage your SDS library. GHS hazard summaries have also been preloaded into the program, and functionality is provided to print new chemical and solution labels that include this information. Please visit our website at [www.canadachemventory.ca](http://www.canadachemventory.ca) to learn about the features and benefits of Flinn Canada Chemventory.

## **Thank You for Your Support**

Please continue to support our efforts to improve safety in school science labs by ordering your laboratory chemicals and science supplies from Flinn Scientific Canada.

