

### WHEN ARE CONTROLS NEEDED

### ADVICE FOR PLANNERS

All Canadian provinces have occupational health and safety laws requiring employers to manage chemical hazards. These laws require employers to assess the hazards associated with chemicals they will be using and to eliminate or control these hazards.

#### Hazard Assessment

The general duty placed on employers with respect to chemical hazard assessment is to identify all potential hazardous materials in the workplace to determine if workers may be exposed to dangerous concentrations of these materials. The legislative obligations are to ensure that no workers are:

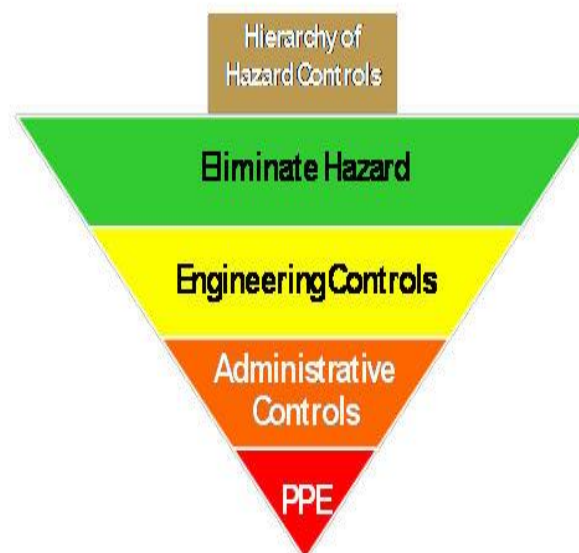
- » Exposed to concentrations in air that exceed Occupational Exposure Limits (if they exist);
- » Ensure that worker exposures to all hazardous materials are kept “as low as reasonably achievable” (whether or not the substance has an Occupational Exposure Limit); and
- » Exposed to materials that pose a health risk if absorbed through the skin.

#### Hazard Elimination & Control

If you identify any hazardous materials during your hazard assessment, you are obligated by Canadian law to eliminate or control the hazards associated with them. A hierarchy of hazard controls is also codified in law, requiring employers to preferentially (in order) eliminate hazards followed by implementation of engineering controls, administrative controls and personal protective equipment. You can only use controls further down the triangle if it is not practicable to do otherwise. It may be that some combination of control approaches is required to fully control the hazard.

- » Elimination and substitution, while most effective at reducing hazards, also tends to be the most difficult to introduce in an existing process. If the process is still at the planning stage, elimination and substitution of hazards may be inexpensive and simple to implement.
- » Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
- » Administrative controls and personal protective equipment are frequently used with existing processes where hazards are not particularly well controlled. These methods for protecting workers have also proven to be less effective than other measures, requiring significant effort by the affected workers.

## Hierarchy of Hazard Controls



### Supplemental Control Requirements

Most Canadian provinces have additional control requirements for particularly hazardous materials or those with a long history of producing illness or injury. The most common are:

- » **Exposure Control Plans and Codes of Practice** that require the employer to develop a written plan for each listed material that defines:
  - Purpose and responsibilities for implementing the plan;
  - Risk identification, assessment and control procedures and practices;
  - Worker education and training requirements;
  - Written work procedures for storage, handling, use and disposal;
  - Hygiene facilities and decontamination procedures;
  - Health monitoring requirements; and
  - Record keeping.
- » **Health Monitoring** for particular chemicals (e.g., asbestos, silica, lead) to consider the impact on health by monitoring changes in the bodies of workers exposed to hazardous agents. Common tests include urine testing, blood testing, pulmonary function testing and x-rays. Medical experts are required to conduct these tests and interpret the results. The aim is to take action before the onset of disease.
- » **Occupational Hygiene Testing** – measures the concentration of airborne chemicals to determine if they are within legislated Occupational Exposure Limits and if the controls that have been implemented are effective in reducing exposure to hazardous materials (see GS Exposure measurement).

The Controlling Chemical hazards guideline and web project is designed to be compliant with all Canadian occupational health and safety legislation. You can use it to help complete the hazard assessment and control process. The end result is a control plan for the chemicals you plan to work with.

#### DEVELOP A CONTROL PLAN BY:

- Selecting the appropriate Control Approach using the Controlling Chemical Hazards guideline and/or web project.
- Identifying and applying the appropriate guidance sheets
- Eliminating / substituting when possible.
- Applying engineering controls.
- Applying administrative controls.
- Specifying personal protective equipment (PPE).