

WHEN IS EXPERT ADVICE NEEDED

ADVICE FOR PLANNERS

The Controlling Chemical Hazards guideline and web project was designed to provide guidance on how to work safely with most chemicals without the need to call in experts. However, there are times when the system will direct you to call in expert advice (GS Control Approaches - Special) because of the complexity of the hazard or controls needed:

You Plan to Use Chemical That Do Have Existing “R-Phrases” of “H-Statement”

R-Phrases and H-Statements are developed using expert professional judgement and information about the chemical's toxicological properties to define levels and types of risk. They help the system define which control approach to select to manage the hazards. If you want to use a chemical which has not been classified before you will need to call in an occupational hygienist to classify it the first time it is used.

You Plan to Use Carcinogenic, Teratogenic, Mutagenic or Allergenic Materials

Materials that are known to cause very serious health effects should be substituted for less hazardous materials or controlled to levels as low as reasonably achievable. Frequently, because exposure limits are so low for these substances, expert advice is required to achieve the level of control needed to protect workers. These materials frequently have a legislated requirement to develop written exposure control plans or codes of practice. In some cases specific control guidance sheets may have been provided to help you deal with the more commonly occurring of these substances (e.g., benzene) without the need to call in experts but in some cases you will need to call in an occupational hygienist.

You Plan to Use a Solid and Liquid Mixture

The Controlling Chemical Hazards guideline and web project asks users to estimate how dusty or volatile the chemicals will be. If you mix a solid in a liquid it may become more hazardous (for instance, if it dissolves in the liquid making it easier to enter the body) or less hazardous (for instance, if it becomes less dusty and less likely to be breathed in). The interaction between the solid and the liquid require professional judgement to define the overall risk to workers. In some cases specific control guidance sheets may have been provided to help you deal with the more commonly occurring of these mixtures (e.g., drilling mud) without the need to call in experts but in other cases you will need to call in an occupational hygienist.

You Plan Processes that Change the Physical or Chemical Properties of Hazardous Materials

If you grind or aerosolize solid or liquids during the work process they may become more biologically available to the body and become more hazardous than originally estimated. Similarly if the hazardous materials interact to produce different materials then the toxicological properties and risk to workers will change. Professional expertise is required to understand the impact these changes will have on the overall risk to workers. In some cases specific control guidance sheets may have been provided to help you deal with the more commonly occurring of these processes (e.g., fracing and field blending) without the need to call in experts but in other cases you will need to call in an occupational hygienist.

You Need to Implement More Complex Controls

In many cases the Controlling Chemical Hazards guideline and/or web project will direct you to implement more complex controls like:

- » **Engineering Controls** - If you do not have the required local exhaust ventilation systems in place you will need the assistance of a professional engineer to design and install one for you.
- » **Containment** – If the direction provided by the system is to undertake containment as your primary control approach, you may need to modify operating equipment to ensure hazardous materials are fully contained which may require the assistance of a professional engineer
- » **Personal Protective Equipment** – If the system requires the use of respirators, impervious gloves and clothing you may need the assistance of an occupational hygienist to select the appropriate equipment

You Plan to Use Volatile Solids

Some solids evaporate in air to produce gases and vapours (e.g., dry ice, moth balls) that may present a danger to workers. The Controlling Chemical Hazard guideline and web project does not have built in processes to estimate evaporation rates for solids and so expert advice will likely be required.

You Need to Evaluate the Effectiveness of Your Hazard Management Program

There are legislative requirements to undertake both medical monitoring of exposed workers and airborne monitoring of hazardous materials they are exposed to:

- » **Medical Monitoring** – considers the impact on health by monitoring changes in the bodies of workers exposed to hazardous agents. Common tests include audiometric testing, 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.

FINDING EXPERTS

The following professional bodies certify experts:

- Qualified Occupational Hygienists have ROH designation from the Canadian Board of Occupational Hygiene or a CIH designation from the American Board of Industrial Hygiene.
- Qualified Physicians are Certified as Occupational Medicine Specialists by the Royal College of Physicians and Surgeons of Canada
- Qualified Engineers receive a P.Eng. designation from their provincial professional regulatory body,
- Audiometric and Pulmonary Function Technicians achieve certification through successful completion of courses approved by their provincial Occupational Health and Safety regulatory agency.