



## CHEMICAL SAFETY

Misuse of chemicals in the workplace can result in severe injuries or death. In some instances, damage to the body is not immediate, and effects may go unnoticed for days, weeks, months, or even years.

Chemicals can be corrosive and can cause burning or irritation to the skin and eyes. Others are toxic or poisonous. Some are highly flammable and/or extremely volatile. Due to these significant risks, it is imperative to know how to work safely with chemicals.

### Physical Hazards

Certain chemicals present physical hazards such as combustibility, flammability, and reactivity. These chemicals include flammable liquids or solids, combustible liquids, compressed gasses, explosives, and water-reactive materials.

### Health Hazards

Certain chemicals present acute or chronic health effects following exposure. An acute effect takes place rapidly following exposure. Other chemicals present chronic health effects that typically occur from prolonged, continuous, and repeated long-term exposure. It is important to note that exposure to a health hazard may not cause obvious harm or make you ill right away. In many cases, you may not be able to see, feel, or smell the danger. Examples of acute and chronic chemical health hazards include carcinogens, toxic agents, irritants, corrosives, and sensitizers.

### Information on Chemicals

The most important sources of information on chemical hazards are the product label and the safety data sheet (SDS). Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import, and prepare labels and safety data sheets with relevant information.

### Labels

- When necessary, chemicals must be supplied with a pictogram label attached to the container.
- Each pictogram consists of a symbol on a white background framed within a red border, and each represents a distinct hazard(s).
- Where appropriate, in addition to pictograms, all labels are required to have a signal word, hazard and precautionary statements, the product identifier, and supplier identification.



## Safety Data Sheets

Safety Data Sheets (SDSs) must be available for most hazardous chemicals in the workplace and are required to be provided in a consistent 16-section format. The purpose of this format is to make it easier for employees to understand the hazards of the chemicals they may be exposed to or use while working.

Safety Data Sheets provide information such as the properties of each chemical; the physical, health, and environmental health hazards, as well as safety precaution for handling and storing the chemicals. As with product labels, a SDS must contain signal words, such as “DANGER” for severe hazards, and symbols and pictograms to alert users to dangerous properties.

Safety Data Sheets must include various types of Occupational Exposure Limits (OELs) used or recommended by the chemical manufacture or importer. OELs have been established by a number of organizations and include OSHA’s “Permissible Exposure Limits” (PELs) and the American Conference of Governmental Industrial Hygienists’ “Threshold Limit Values” (TLVs). SDSs must also contain detailed first-aid information and emergency response measures (e.g. fire fighting).

***Use the SDS to ensure chemical containers have correct and complete labels.***



## Follow Basic Chemical Safety Practices

- Secure all chemical container lids, and store the chemicals in their designated areas after use.
- Review the Safety Data Sheet to understand the hazards and emergency procedures.
- Always wear required personal protective equipment when handling hazardous chemicals.
- Never sniff a chemical to determine its properties.
- Never place chemicals in beverage bottles.

## Implement Recommended and Mandatory Chemical Safety Work Practices

- Maintain a list of all hazardous chemicals in the workplace.
- Make sure all chemicals are labeled clearly and and correctly.
- Ensure SDSs are available for all hazardous chemicals. SDSs should be located in close proximity to the work area, be accessible and be adequately protected from dirt and grime.
- Provide adequate ventilation in all work areas.
- Have eyewash facilities located in close proximity to the work area, and maintain them properly.
- Provide the appropriate personal protective equipment to employees working with chemicals.