Understanding Container Labels and Hazardous Chemicals

You can help prevent illness and injury by always reading and following instructions on the container label for each hazardous chemical or substance you use. There should always be a label on the container. If you have any questions after reading the container label, check the Safety Data Sheet (SDS). The SDS is a detailed source of information for the hazardous chemical or substance you are using. Be sure that the label remains legible so you will know what precautions to take when you use these chemicals or substances.

Container labels

Always check the container label of hazardous chemicals before handling the substance. The container labels should list six categories required by Occupational Safety and Health Administration (OSHA) to educate and prevent illness and injury for each hazardous substance you use. Others container labels may give more detailed precautions. Container labels have information such as:

- **Name, address, and telephone number (mandatory).** This is the manufacturer, importer, or other responsible party's name, address, and telephone number.
- **Product identifier (mandatory).** This informs you of the name of the hazardous chemical or substance, as well as the code or batch number. A brief description or ingredients of the hazardous chemical or substance may also be listed on the container.
- **Signal word (mandatory).** This tells you the level of severity of the hazardous substance, either Danger or Warning.
- **Hazard statements (mandatory).** This gives you a list of hazard warnings, such as:
    - The need to keep the substance away from flames
    - The need to keep it away from your skin. It also tells you the kind of personal protective equipment you should wear while handling the hazardous chemical or substance.
    - The need to use in a well-ventilated area
    - Steps to take if you splash the substance in your eyes or on your skin
    - The procedure for disposing of the container. As needed, other information should be added to this section to help prevent injuries and illness resulting from exposure to the chemical.
- **Precautionary statements (mandatory).** This informs you of the kind of personal protective equipment you should wear while handling the hazardous chemical or substance and the procedure for storing the hazardous chemical. As needed, other information should be added to this section to help prevent injuries and illness while using, handling, or storing the chemical.
- **Pictograms or graphic symbols (mandatory).** This provides information about the chemical's hazards by using symbols or pictures. These eight required symbols are health hazard, flame, exclamation mark, gas cylinder, corrosion, exploding bomb, flame over circle, and skull and crossbones. These symbols improve the safety and health of workers.
- **Supplementary information (if applicable).** This gives you additional directions on how to use the hazardous chemical or substance safely.

Types of hazardous chemicals

OSHA's hazard communication standard (HCS) describes a hazardous chemical as any chemical that can be a physical hazard or a health hazard. Based on statistically significant or scientifically valid evidence, HCS defines the majority of hazards as the following:

Physical hazards

A physical hazard is a chemical that is likely to burn or can cause a fire. It can release high pressure that can cause injury to the body or cause an explosion. It can also react spontaneously or when exposed to water. Three types of physical hazards are:

1. **Fire hazards.** These can be a combustible liquid, flammable liquid, flammable aerosol, flammable gas, flammable solid, oxidizer, or a pyrophoric (a substance that catches fire when exposed to air).
2. **Reactive hazards.** These can be an organic peroxide, an unstable (reactive), or a water-reactive.
3. **Explosion hazards.** This is compressed gas or an explosive.

Health hazards

Health hazards are possible health effects that result from a chemical exposure. These types of hazardous chemical exposures usually occur in a work environment. The information is based on scientific experiments on lab animals, reliable human data, cell and tissue studies, or data on chemical toxicities. Two types of health hazards are:

1. Systemic effects. These can be caused by a carcinogen, toxic agent, highly toxic agent, corrosive, irritant, or sensitizer.
2. Target organ effects. These can be caused by a hepatotoxin, nephrotoxin, neurotoxin, blood/hematopoietic toxin, respiratory toxin, reproductive toxin, cutaneous hazard, and an eye hazard.

Other important hazards include:

- Cardiovascular, endocrine system, sensory organ, and gastrointestinal toxicity
- Immunotoxicity
- Skeletal/muscular and connective tissue effects

For more information

For detailed information on a physical hazard or a health hazard, visit the OSHA site at www.osha.gov/dsg/hazcom/ghd053107.html.