

Safety Corner

Chemical safety

Chemicals hazardous to health can be used safely if their associated risks are controlled when we are working with them. Chemical safety is the practice of handling chemicals and managing chemistry processes in a safe manner to minimise risk by minimizing the hazards to a person, facility, or community.

Chemical safety has many scientific and technical components. Among these are toxicology, ecotoxicology and the process of chemical risk assessment that requires a detailed knowledge of exposure and the biological effects of the chemicals in their natural and manufactured forms. The risk assessment should consider all activities and the full range of exposure situations, from the natural presence of chemicals in the environment to their extraction or synthesis, industrial production, packaging, transport, trading, use, and disposal. For each activity, possible exposure scenarios should be postulated, with likelihood and consequence evaluated, mechanism and duration of exposure appraised, and the risk assessed. Risk control measures can be identified to reduce the risk to an acceptable limit.

When working with hazardous chemicals, users should pay attention to the health hazards and physical hazards of the chemical materials, and follow basic safety practices to minimise risk:

- Never work alone when hazardous chemicals are involved
- Maintain an organised and orderly facility
- Communicate hazards to everyone in the facility
- Use proper engineering controls
- Use personal protective equipment as needed or required
- Follow requirements for high hazardous chemicals
- Dispose of chemical waste according to relevant guidelines
- Prepare for accidents and emergencies
- Develop chemical hygiene plan and hazard communication program

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