Acute Toxicants
Chemical Hazards and Risk Minimization

Before starting any work with hazardous materials, review the SDSs of the specific chemicals

Acute Toxicants
Acute toxicants are chemicals that may cause or are known to cause lethal or significantly toxic health effects.

Section 2 of the Safety Data Sheet (SDS) will contain one or more Hazard Statements describing the nature of the acute toxicant chemical. Examples:

- Fatal if swallowed
- Toxic in contact with skin

**See the “Hazard Statements” fact sheet for more detailed information

Hazard Communication
The “Skull and Crossbones” pictogram identifies substances that may cause:

- Acute toxicity (fatal or toxic) - serious adverse health effects (i.e. lethality) occurring after a single or short-term oral, dermal or inhalation exposure to a substance or a mixture.

Handling and Storage Precautions
General risk mitigation measures are as follows:

- Review instructions and precautions provided by the manufacturer/distributor with respect to recommended storage and handling
- Store by hazardous class and in secondary containment. Clearly label storage location and/or secondary containment with hazard class
- Follow general safe chemical handling practices as outlined in the ECU Chemical Hygiene Plan (CHP)
- Observe all specific safety procedures established in the lab safety plans
- Wear appropriate personal protective equipment (PPE) including a closed lab coat, closed heeled/toed, non woven shoes, eye protection, and compatible gloves
- Double glove for highly toxic chemicals
- Substitute for less toxic/hazardous chemicals where possible
- Use chemicals on the smallest scale and concentration feasible
- Restrict the use of highly toxic chemicals to designated work areas and inform all lab users of such hazards
- Consider vented storage, when appropriate

What do I need to know?
- Review instructions and precautions provided by manufacturer/distributor with respect to recommended storage and handling
- Follow general safe chemical handling/storage practices as outlined in the ECU CHP
- Substitute for less toxic/hazardous chemicals where possible
- Use chemicals on the smallest scale and concentration feasible
- Wear proper PPE when handling acute toxicants: ANSI-approved safety glasses, compatible gloves, lab coat, full-length pants, closed-heel and closed-toe shoes
Acute Toxicants

Prudent Practices
Plan for and implement measures designed to eliminate or reduce susceptible routes of exposure:

• Inhalation
  ○ Use chemical fume hoods when at all possible
  ○ Keep containers closed when not in use to limit vapor generation
  ○ Transfer volatile liquids in a manner that limits splashing and mixing with the air
  ○ Transfer solids, especially powders, using spatulas and spoons instead of pouring directly
  ○ Use wet/damp cleaning methods for solids/dusts – do not dry sweep

• Absorption
  ○ Remove personal PPE before leaving the work area. Learn how to remove gloves without touching the outside of them with bare fingers, using rolling technique
  ○ Wash hands or exposed skin after known or suspected chemical contact, after removing PPE, and before leaving the work area.
  ○ Use gloves that are compatible with the chemical(s)
  ○ Wear ANSI-approved safety glasses or goggles

• Ingestion
  ○ Practice strict contamination control, keeping the workplace and floors clean
  ○ Do not eat, drink, chew gum, apply cosmetics or store such materials in labs

• Injection
  ○ To the extent feasible, eliminate the use of sharp objects and breakable glass apparatus
  ○ If it is necessary to use a sharp object, use remote handing devices such as forceps
  ○ When there is a risk of cuts or stoicks, use cut/puncture-resistant gloves
  ○ Properly dispose of used sharps. Do not re-cap used needles

**See the “Additional Information: Health Hazards, Acute Toxicants, Irritants and Sensitizers” factsheet for labeling and category charts.

Resources

• GHS Handbook, Revision 7 (The Purple Book)
• GHS Pictogram (OSHA Quickcard)
• Safety Data Sheet Information
• How to Read a Safety Data Sheet