



The University of Texas at Tyler
LABORATORY RISK ASSESSMENT TEMPLATE

Standard Operating Procedures for Hazardous Chemicals

Lab Location: _____ Date: _____

Title of Procedure: _____

Principal Investigator: _____

RISK ASSESSMENT

Hazardous Chemicals (*List chemicals used: include chemical name, common name and abbreviation.*)

Potential Hazard(s) (*Describe the potential hazards associated with the chemicals or the procedure.*)

Examples include:

- 1) *Chemical hazards such as carcinogenic, irritant, corrosive, acutely toxic*
- 2) *Reproductive hazards such as teratogens and mutagens*
- 3) *Allergies or chemical sensitivities that may be associated with the chemical*
- 4) *Physical hazards such as reactive, pyrophoric, exothermic, use of high energy equipment*

Rules of Exposure (*As applicable, describe the potential routes of exposure associate with the procedures such as inhalation, absorption, skin/eye contact*)

Exposure Limit: (*As applicable, list the Permissible Exposure Limit (PEL) or Threshold Limit Value (TLV) of the chemical(s), if known*)

Quality/Concentration Hazards (As applicable, describe if the quantity/concentration of the chemical(s) used increase the risk of exposure to the chemical.)

Solution of Less Hazardous Chemicals (As applicable, describe the potential use of less hazardous chemical substitutes.)

CONTROL MEASURES

Engineering Controls (As applicable, describe the engineering controls used for the procedure.)

Examples:

- 1) Use of fume hoods or glove boxes
- 2) Special ventilation
- 3) HEPA filtered vacuum lines
- 4) Non-reactive containers
- 5) Temperature control
- 6) Bench paper, pads, chuks, plastic-backed paper
- 7) Special signage
- 8) Safe sharp devices
- 9) Other safety devices

Work Practice Controls (As applicable, describe work practice controls used for the procedure.)

Examples:

- 1) Designated areas (for highly toxic chemicals)
- 2) Performing procedures with a least two people present
- 3) Rotating workers
- 4) Restricting access; locks
- 5) Housekeeping

Personal Protective Equipment (PPE) (List all applicable personal protective equipment needed for the procedure.)

For example, describe use of:

- 1) Gloves (type)
- 2) Lab coats, suits, aprons
- 3) Safety glasses, goggles, face shields
- 4) Respirators, hearing protection
- 5) Special equipment (such as blast shields)
- 6) Other PPE

Monitoring (As applicable, describe any monitoring needed for the procedure.)

Examples:

- 1) Personnel exposure monitoring
- 2) Gas/spill release monitoring

Use in Animals (As applicable, describe how the chemical will be safely used in animals.)

Examples:

- 1) Dosing administration
- 2) Animal restraining
- 3) Information on shedding/excretion of chemical
- 4) Aerosol suppression practices
- 5) Handling animals
- 6) Special cage handling/washing instructions

Cleanup/Decontamination Procedures (Describe the process for cleaning the work area during and after the procedure.)

Storage Procedures (Describe how and where the chemical(s) will be safely stored.)

Example: Reviewing expiration dates on peroxide formers.

Transportation Procedures (If the chemical will be transported on campus, describe the procedure.)

Waste Disposal Procedures (Describe how waste will be disposed.)

Examples:

- 1) Animals: include bedding, cages, and carcasses
- 2) Chemicals
- 3) Radioactive
- 4) Sharps

Emergency Procedures (Describe procedures to be followed in the event of an emergency.)

Spills or Releases: (Provide specific instruction on what personnel should do in the event of a spill or gas release. Include location of spill kits.)

Fire: (Provide specific instruction on what personnel should do in the event of a fire)

Emergency Shut Offs: *(Describe procedures for shutting down equipment in an emergency.)*

Signs and Symptoms of Exposure: *(Describe the specific signs and symptoms of an exposure to the chemical(s), such as visual cues or odors.)*

Exposures: *(Provide specific instructions on what to do in the event of an exposure.)*

First Aid: *(If first aid for an exposure is available, describe the procedure. If not, describe what steps personnel should take if injured.)*

Occupational Health Requirements *(Describe and Occupational Health requirements necessary that are associated with the procedure.)*

Examples include medical evaluation, baseline serum samples, and respiratory fit testing.

Safety Data Sheet (SDS) *(Describe how personnel will access the SDS in the lab and include a copy of the SDS with this SOP.)*

Training Requirements *(Describe what training personnel must complete before using the chemical/procedure. This training should be documented.)*

Review of Procedure *(Describe the frequency for reviewing the SOP document.)*

PROTOCOL

(Description of how to safely perform the experiment)