



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)*