TEXAS TECH UNIVERSITY HEALTH SCIENCES CENTER EL PASO

Operating Policy and Procedure

HSCEP OP: 75.27**, Hazardous Materials Spill Responds Policy**

PURPOSE: The purpose of this Texas Tech University Health Sciences Center El Paso (TTUHSC El Paso) Operating Policy and Procedure (HSCEP OP) is to cover the accidental release of solid, liquid and gaseous products of a hazardous nature on TTUHSC El Paso property including chemicals and other hazardous materials.

REVIEW: This HSCEP OP will be reviewed, amended as necessary or every two (2) years by the senior director safety services, with recommendations and revisions forwarded through the managing director of physical plant and support services to the chief operating officer.

Note: Other divisions (e.g., research operations) may have additional or more stringent requirements in addition to this procedure.

PROCEDURE:

I. Introduction

The determination to perform the initial risk assessment of any hazardous material spill will be at the discretion of the user, supervisor, or first responder. The user must be knowledgeable about the chemical or solution that was spilled either by first-hand experience, training, or through the use of a Safety Data Sheet (SDS). If the user has determined that he/she does not have the capacity to assess the situation appropriately, it is the duty of the user to contact a supervisor or the Department of Safety Services.

The two principle determinations that need to be made are: should the area/zone/building be evacuated and how to proceed with spill remediation. Preserving life has priority over protecting property; property can be replaced and environment decontaminated. TTUHSC El Paso faculty, staff, students, or visitors that have not been formally trained to remediate a hazardous spill (based-on the initial assessment) **shall not** attempt to do so and will instead evacuate the affected zones and notify Safety Services for guidance.

II. Chemical Spills

Chemical spills can result in chemical exposures and contaminations. Chemical spills become emergencies when:

- The spill results in a release to the environment (e.g., sink or floor drain).
- The spill is potentially dangerous to life and health.
- The material or its hazards are unknown.
- Staff cannot safely manage the hazard due to the hazardous nature or quantity of the chemical.

Effective emergency response to these situations is imperative to appropriately mitigate or minimize adverse reactions when chemicals incidents occur.

If a spill involves radiological materials consult section 7 of the *Emergency Guidelines of the Radiation Safety Manual* for proper response. Only trained radiation workers are permitted to assess a spill of a radioactive material. Emergency contact information for areas with hazardous materials will be posted at the entrance to these spaces.

III. Factors to Consider Before Spill Clean-Up

- Toxicity (toxic or poisonous) hazard
- Volatility (propensity to vaporize) hazard
- Reactivity (ability to react hazardously with other materials) hazard
- Corrosivity (ability to corrode tissue or materials) hazard
- Flammability (ability to burst in to flames) hazard
- Radioactivity (ability to give off damaging particles of energy) hazard
- Explosiveness (ability to explode) hazard
- Asphyxiate (ability to decrease breathable oxygen in an area) hazard
- Pharmaceutical (ability to affect physiology if internalized) hazard
- Size of spill and rea
- Quantity of Chemical
- Clean-up materials available
- Clean-up capacity or training

In the event of a significant chemical exposure or contamination, it is essential to immediately assess how the spill could affect people in the area/zone/building. Depending on the initial risk assessment, people may need to be evacuated and/or the spill isolated as a safety precaution.

If skin or eye exposure occurs, remove contaminated clothing and flush the affected area using an eye wash, drench hose or shower for a least 15 minutes or as determined by the SDS. Obtain medical assistance as indicated.

If assisting an exposed worker, one shall wear appropriate personal protective equipment (PPE) before attempting to assist. Department managers/supervisors must review all exposure situations, make sure affected employees receive appropriate medical treatment and /or assessment, and arrange for containment and clean-up of the chemical as appropriate.

A. **Small or minor chemical spills** may be cleaned-up by adhering to the material's SDS; this includes being able to understand the SDS and having the appropriate means and PPE to remediate the spill. A "small" spill is generally defined as a spilled material volume; < 1 liter of chemical that is not highly toxic, does not present a significant fire or environmental hazard, and is not in a high traffic area such as a public hallway. This shall be determined during the initial risk assessment of the spill. The location of the spill, presence of HVAC supply/exhaust, and proximity to people must also be taken into consideration during the assessment.

B. **Large chemical spill** include spills of larger quantities, spills of any quantity of highly toxic chemicals in public areas or adjacent to drains. Large spills may require emergency response. Contact the Department of Safety Services for guidance; email is not a medium suitable for immediate response. A local Fire Department hazardous materials (HAZMAT) team, or a spill remediation contractor, or both may need to be contacted based on the assessment of the spill. Spills of this scale will usually require area/building evacuation and isolation of the spill.

IV. What To Do With A Small Chemical Spill (<1 Liter, Non-Hazardous)

- Evacuate all non-essential persons from the spill area.
- If medical assistance is needed, dial 911 from a campus phone. Once medical assistance is requested, call TTUHSC EP Police and notify them of the emergency.
- Involve the unit safety officer in this process as soon as possible.
- Help anyone who may have been contaminated. Use emergency eyewashes/showers or a regular sink, and flushing the skin or eyes for at least 15 minutes.

- Post someone just outside the spill area to keep people from entering. Avoid walking through contaminated areas**.**
- Wear the proper PPE and materials to clean spills. Check the chemicals SDS for spill clean-up procedures, or call the Department of Safety Services for guidance. **Never attempt to clean-up a spill without the required PPE as established by the SDS.**
- If flammables are involved, turn-off sources of flames, electrical heater, and other electrical devices, (i.e., any heat or spark producing equipment that may cause flammable vapors to flash or ignite).
- Contain the spill to a small area. Take measures to prevent it from spreading with materials provided in your spill kit. If a spill kit is not available, use paper towels or other appropriate absorbent material to prevent the spill from spreading.
- Avoid breathing vapors from the spill. If the spill is in a non-ventilated area, do not attempt to clean it up. Exit lab or clinic, and call the Department of Safety Services for guidance.
- Never clean-up a hazardous spill alone.
- Due to potential reactions with some chemicals it is important that you **DO NOT ADD ANYTHING (INCLUDING WATER) TO A SPILL BEFORE REVIEWING THE SDS.**
- Follow instructions in the appropriate spill kit to collect and label the spill/sorbent mixture. Call the Department of Safety Services to pick-up the waste.

V. What To Do With A Large Chemical Spill (≥1 Liter, Highly Toxic)

If the chemical spill is contained and isolated with no immediate danger to persons, contact the Department of Safety Services for guidance.

If the spill presents a situation that is immediately dangerous to life and health or presents a significant fire risk, coordinate with department staff to detour building occupants away from the spill, inform TTUHSC EP Police and Safety Services, activate the building evacuation system, evacuate the immediate area, and wait for emergency response to arrive.

- If safe to do so, remove injured and/or contaminated persons(s) from the area.
- If medical assistance is needed, dial 911 from a campus phone, and call TTUHSC EP Police. Inform them of individuals affected and location.
- If a flammable is involved and if possible to do so safely, turn off all sources of flames, electrical heaters, and other electrical equipment that may cause volatile vapors to flash or ignite.
- As you evacuate the area, evacuate people in your area with you and close door(s) behind you.
- Avoid walking through contaminated areas or breathing vapors of the spilled material.
- Contact the Department of Safety Services for guidance.
- Post someone safely outside and away from the spill area to keep people from entering.
- Any employee with known contact with a particularly hazardous chemical must be decontaminated (including washing of the hair and skin) as soon as possible, unless prevented by physical injuries or contraindicated by the SDS.

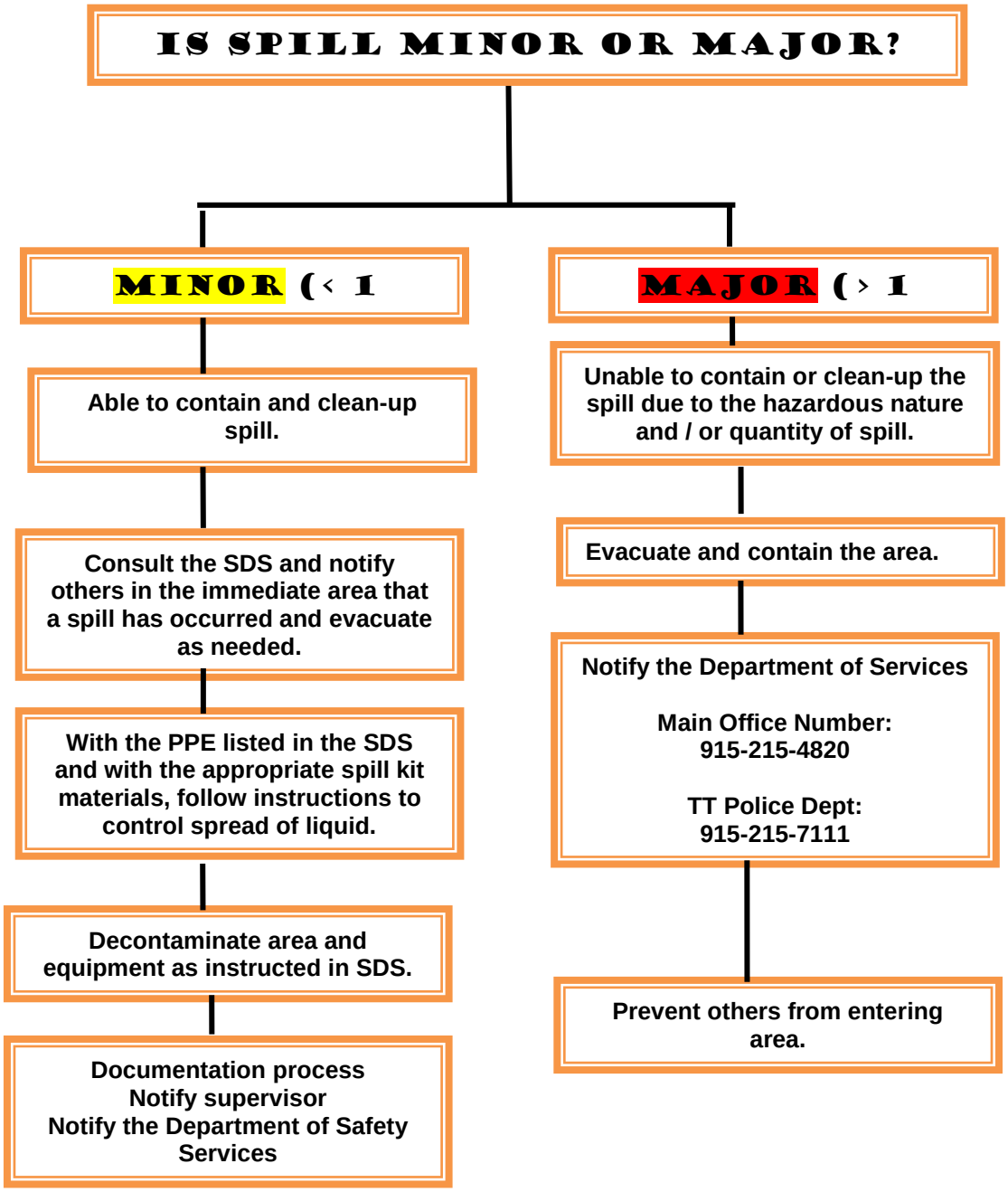
Table 1:
Examples of highly toxic chemical spill.

Highly Toxic Chemical Spills

Do not try to clean up spills of any size which potentially involve the chemicals listed below. All spills of this nature require emergency response:

- ***Aromatic Amines***
- ***Hydrazine***
- ***Bromines***
- ***Nitriles***
- ***Carbon Disulfide***
- ***Nitro-Compounds***
- ***Cyanides***
- ***Organic Halides***
- ***Ethers***

CHEMICAL SPILL FLOW CHART PROCEDURES



Chemical Spill Release Procedure

For the Department of Safety Services Personnel

If you receive a phone call concerning a chemical spill release:

- **Is immediate medical attention required?**
  (Is anyone hurt physically, bleeding, passed out, contaminated with spilled chemical?)
  - **If yes to above, have they contacted 911?**
  - **If not, inform them that you will do so.**
- **If the emergency still expanding/getting worse?**
  - **If YES – collect information below, then call 911**
  - **If NO – collect information below; refer to safety managers for aid determination.**
- **Obtain**
  - **Name:**_____
  - **Phone number:** _____
  - **Spill Location:** _____
  - **What has been spilled?** _____
  - **How much?** _____
  - **Do they require assistance?** **YES** ☐ **NO** ☐
- **Instruct them to:**
  - **Evacuate spill location**
  - **Keep others out of spill location until Safety Services arrives**
- **Inform safety managers.**
- **Upon arrival to scene, safety managers need to:**
  - **If the spill is reactive or emergency is spreading call 911**
  - **If the spill is basically contained, but due to nature of chemical hazardous material (HAZMAT) assistance will be required, call Fire Department HAZMAT.**
  - **Remain at spill location and wait for Fire Department to escort to spill location.**