SMU EHS Standard Operating Procedure for use of

TOXIC LIQUIDS AND SOLIDS

Examples: chloroform, 2-mercaptoethanol, xylene, methanol, acrylamide, ethidium bromide, trypan blue

HAZARDS	**Potential Hazards**	• **Exposure** can occur through the **skin** (possibly after penetrating gloves), **inhalation** of vapors or aerosols, or by accidental **ingestion** or **injection**. • **Acutely toxic** liquids and solids can cause **death** or **systemic toxicity**. • Exposure can cause **health hazards** (such as **cancer, reproductive effects, mutations, respiratory sensitization, and organ damage**) and/or **irritation** of the eyes, skin, or respiratory system. • Some toxic liquids and solids may also have **physical hazards**. • See **Safety Data Sheet** (SDS) for specific hazard information.
HAZARD CONTROLS	**Selection and Purchase**	• Purchase the **smallest containers** at the **lowest concentration/quantity** practical. • Purchase in **shatter-resistant containers** if available. • When possible, order solids in **pre-weighed amounts**, in a **septum-top** vial.
	Storage and Transportation	• Store **below eye level** but **not on the floor**. • Keep toxic liquids and solids away from incompatible materials (see SDS). • **Transport** in a **bottle carrier** or using **secondary containment**.

	Engineering Controls	• Work in a **chemical fume hood if:**
		  ○ Heating the materials AND/OR
		  ○ Working with open containers
		• When there is no risk of exposure to **hazardous vapors or gases**, a **biological safety cabinet** may be used instead.

	Work Practice Controls	• Line the work area with absorbent, leak-proof bench pads. • Use the smallest practical quantities for the work being performed. • Plan work to **avoid contact with gloves. Change gloves immediately if contaminated.** • **Change gloves at least every 2 hours** and **wash hands.** • **Decontaminate** work area with an appropriate solution. • **Weigh solids** in a **fume hood**.
	Personal Protective Equipment (PPE)	**Minimum PPE**: • Fastened lab coat • Safety glasses • Appropriate gloves **Risk of splash or large amounts, add**: • Safety goggles • Impervious sleeves and apron (or coverall) ***Consult the manufacturer's glove guide for effectiveness with the chemical.***
OTHER	**Waste**	Collect and store according to SMU Hazardous Waste guidelines.
	Training	Sign Laboratory Specific Training document to indicate understanding of this SOP.
	Questions	Contact Environmental Health and Safety at 214-768-2430.
	Additional Guidelines	Please complete page 2 for additional laboratory – specific guidelines

Laboratory-specific chemicals and procedures: