ARKANSAS STATE UNIVERSITY EHS
LABORATORY CHEMICAL STANDARD OPERATING PROCEDURE

Chemical Name: Benzene **CAS #:** 71-43-2

Hazard Classification: Health Hazard

Location Used:	Principal Investigator:
Processes for Which Chemical Is Used:	

HAZARDS AND PROTECTION

Hazard Information • Highly flammable • May be fatal if swallowed and enters airways • May cause genetic defects • May cause cancer (leukemia) • Causes damage to organs through repeated exposure	
Routes of Exposure • Ingestion • Inhalation • Eye absorption • Skin Absorption	If exposed by: • Inhalation: Remove to fresh air. If not breathing give artificial respiration. • Ingestion: Rinse mouth with water and then drink plenty of water; do not induce vomiting. • Eyes: Rinse affected area for 15 minutes • Skin: Wash with soap and water. If exposed any route seek medical attention.
Exposure Limits All exposure limits are Time Weighted Averages (average exposure over an eight-hour day).	OSHA PEL: 10 ppm (32 mg/m^3) ACGIH TLV: 0.5 ppm (1.6 mg/m^3) NIOSH REL: 0.1 ppm (0.32 mg/m^3)
Engineering Controls • Chemical Fume Hood	Never open benzene outside of a chemical fume hood.
Administrative Controls • Designated area sign • Particularly hazardous substance label	• Post designated area sign before each use. • Label containers of benzene as a health hazard. • Use as small a quantity as possible.

Personal Protective Equipment • Gloves • Safety glasses or splash goggles • Lab coat	Two pairs of nitrile gloves for short-term use. If longer term use, PVA or laminate film gloves are required. Change gloves immediately if a spill on gloves is observed. Wash hands after use.

OTHER SAFETY INFORMATION

Transportation	Follow guidance given in the laboratory safety manual for transport of chemicals.
Storage • Store in a flammables materials storage cabinet. • Keep away from heat or sources of ignition • Keep tightly sealed	Incompatible materials include: Acids, bases, strong oxidizing agents, halogenated compounds, metallic salts
Spill/Accident Procedures For all spills: • Wear two pairs of nitrile gloves • Turn off sources of ignition (if safe) • Evacuate the immediate area Exposure: • If anyone exposed requires emergency medical attention, dial 911 (or 9-911 from landline). • Follow procedures outlined in laboratory safety manual.	**Small spills (less than 50 mL):** Cover the spill with absorbent materials. Place absorbent materials in bag or bucket for collection by EHS. Clean area with soap and water once spill is removed. **Large spills (greater than 50 mL):** If the spill is in a chemical fume hood, contact the EHS director (864-710-2933). If he cannot be reached (does not answer phone, do not leave voicemail), then call 911, pull the fire alarm and exit the building. If the spill is outside of a hood, then call 911, pull the fire alarm and exit the building.
Waste Disposal	Waste benzene must be collected for disposal. Empty bottles of benzene may be rinsed and thrown in the dumpster.

By signing below, you indicate that you have reviewed this SOP and understand the contents thereof:

Printed Name	Signature	Date