



WAKE FOREST
UNIVERSITY

Standard Operating Procedure (SOP)



BENZENE

Effective Date: **8/23/2013**

Revised Date: **8/23/2013**

INTRODUCTION

- This SOP applies to BENZENE.
- Benzene is a known carcinogen.

GENERAL LAB RULES

1. No eating, drinking, smoking, handling contact lenses, or applying cosmetics in the laboratory.
2. Persons shall wear buttoned lab coat, long pants, safety glasses or goggles and appropriate gloves when working with hazardous chemicals.
3. Mouth pipetting is prohibited; mechanical pipetting devices are to be used at all times.
4. All procedures are performed carefully to minimize the creation of splashes or aerosols.
5. Wash hands
 - after handling chemicals materials,
 - after removing gloves, and
 - before leaving the laboratory.

Additional Lab Specific Rules Here

POTENTIAL HAZARDS

- Flammable.
- Incompatibilities: strong oxidizers or strong acids.

HEALTH HAZARDS

- Carcinogen.
- Chronic exposure by inhalation may result in various blood disorders (anemia, leukemia).
- Symptoms of acute exposure can lead to headaches, dizziness, nausea or intoxication.
- May irritate eyes, nose respiratory tract.
- Benzene can be absorbed through the skin and may cause dermatitis.

PERSONAL PROTECTIVE EQUIPMENT

EYE PROTECTION

- Safety glasses, goggles or face shields shall be worn during operations in which BENZENE might contact the eyes (e.g., through vapors or splashes of solution).
- Ordinary (street) prescription glasses do not provide adequate protection. Adequate safety glasses must meet the requirements of the Practice for Occupational Education Eye and Face Protection (ANSI Z87.1-1989) and must be equipped with side shields.

HAND PROTECTION

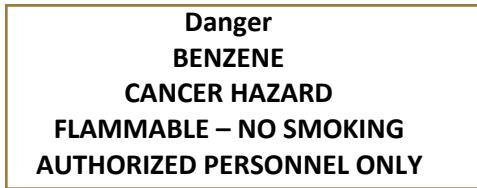
- Use disposable nitrile gloves when working with chemicals. Check chemical compatibility chart for breakthrough time when using
- Laboratory personnel should thoroughly wash hands with soap and water before and immediately upon removal of gloves.

LAB COATS, ETC.

- Button lab coats, closed toed shoes, long pants and long sleeved clothing shall be worn when handling BENZENE. Protective clothing shall be worn to prevent any possibility of skin contact with BENZENE.

WORK PRACTICES

- All BENZENE work shall be done in the laboratory fume hood.
- Laboratory must be marked as follows:



SPECIAL HANDLING PROCEDURES AND STORAGE REQUIREMENTS

- Do not store with incompatible material.
- Store BENZENE in a flammable storage cabinet.
- Keep away from ignition sources.

Additional Lab Specific Special Handling/Storage Procedures

WASTE DISPOSAL

- Chemicals shall not be drain disposed unless prior approval is given by EH&S.
- Excess BENZENE and all waste material containing BENZENE must be placed in a container labeled with the following **“HAZARDOUS WASTE BENZENE”, AND THE FULL CHEMICAL NAME.**
- Contact EHS at x3427 for hazardous waste removal.

EMERGENCY PROCEDURES

Emergency Numbers:

Fire and Medical Emergencies	x5911 (911 on cell phone)
Environmental Health and Safety	x3427
Hillcrest Urgent Care (employees)	336-760-8999
Student Health (students only)	x5218
Poison Control	800-222-1222

FIRST AID

1. If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Call x5911 for medical assistance.
2. In case of skin contact: Take off contaminated clothing and shoes immediately. Wash off in safety shower for at least 15 minutes. Call x5911 for medical assistance.
3. In case of eye contact: Rinse thoroughly with plenty of water at eyewash for at least 15 minutes and call x5911 for medical assistance.
4. If swallowed: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Call x5911 for medical assistance.
5. Call x5911 and describe the extent of injuries.
6. Report all accidental exposures to EHS and Human Resources (employees) or Student Health (students).
7. Complete an [online injury/illness report](#) if there is an over-exposure to the chemical or if there is an accident involving the chemical.

SPILL AND ACCIDENT PROCEDURES

SPILL QUANTITY	PROPER SPILL RESPONSE
Spill less than 500 mL	Contact Environmental Health and Safety (x3427) and clean up spill using spill kit. Avoid breathing vapors.
Spill greater than 500 mL	Do not attempt to clean up spill. Leave the area and immediately report to WFU Police (x5911) and EHS (x3427).