

## CHEMICAL SAFETY

### Standard Operating Procedure (SOP)

<i>Title:</i>	Hydrazine Anhydrous	<i>WFUHS</i>
<i>Approved by:</i>	<i>Effective Date: November 2007</i>	<i>SOP#</i>
<i>David A. Brown, Director, EH&amp;S</i>		

#### PURPOSE

The purpose is to use hydrazine anhydrous, used in chemical syntheses and as a reducing agent, in a safe manner.

#### SCOPE

The scope of hydrazine anhydrous is to use in a laboratory environment.

#### HEALTH, SAFETY, ENVIRONMENTAL INFORMATION

##### Physical Hazards

Chemical Stability: Stable.

Incompatibilities with Other Materials: Oxidizing agents, oxygen, copper, zinc, organic materials.

Hazardous Decomposition Products: Nitrogen oxides.

Hazardous Polymerization: Will not occur

##### Health Hazards

Eye: Causes burns.

Skin: Causes burns. Toxic if absorbed through skin. May cause allergic skin reaction.

Ingestion: Toxic if swallowed.

Inhalation: Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Chronic: Effects to the lungs, liver, spleen, and thyroid have been reported in animals chronically exposed to hydrazine via inhalation. Increased incidences of lung, nasal cavity, and liver tumors have been observed in rodents exposed to hydrazine.

##### Signs and Symptoms of Exposure

Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Other symptoms include a burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.

##### Personal Protective Equipment

- **Eye Protection**

- Chemical goggles shall be worn during operations in which hydrazine anhydrous 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.
- Contact lenses shall not be worn if the potential exist for hydrazine anhydrous exposure.

- **Hand Protection**

- Nitrile gloves impervious to hydrazine anhydrous shall always be worn – Safeskin Purple Nitrile Xtra Exam Gloves, 12 inches long, catalog # 19-149-864 (Fisher Scientific).

- **Lab Coats, etc.**
  - Lab coat, closed-toe shoes and long-sleeved clothing shall be worn when handling hydrazine anhydrous. Protective clothing shall be worn to prevent any possibility of skin contact with hydrazine anhydrous.
- **Safety Shower / Eye Wash**
  - Where the eyes or body of any person may be exposed to hydrazine anhydrous, suitable facilities for quick drench or flushing of the eyes and body shall be provided within the work area for immediate emergency use.
  - Bottle type eyewash stations are not acceptable.

### **Designated Area for Use and Containment Devices**

All hydrazine anhydrous work shall be done in the laboratory fume hood.

The fume hood's sash must be in the position where a face velocity of 100 feet per minute is achieved.

### **Waste Disposal**

Containers of hydrazine anhydrous must be disposed of according to WFUHS EH&S Hazardous Waste Program.

### **Decontamination of Equipment and Area**

Contact WFUHS EH&S at 716-1201 for decontamination information.

### **Spill and Accident Procedures**

In the event of a liquid spill greater than 300cc, immediately vacate and secure the area. Contact WFUBMC Security at 716-9111.