

CORROSIVE CHEMICALS - ACIDS, BASES AND DEHYDRATING AGENTS STANDARD OPERATING PROCEDURE

HAZARDOUS CHEMICALS/CLASS OF HAZARDOUS CHEMICALS

- Chemicals that are highly corrosive to steel.
- The major classes of corrosives include strong acids, bases, and dehydrating agents.

HAZARD DESCRIPTION

- Corrosive chemicals cause visible destruction or permanent changes in human skin tissue at the site of contact.

PROTECTION PROCESS

- Good laboratory technique
- Appropriate shielding through use of personal protective equipment
- Use of fume hood
- Availability of eye wash station and safety shower

PERSONAL PROTECTIVE EQUIPMENT

- Safety glasses/goggles (Wear chemical safety goggles when using small quantities or safety glasses or chemical safety goggles with face shield when using large quantities or when a splash potential exists.)
- Gloves should be worn when handling corrosive chemicals. Disposable latex or nitrile gloves provide adequate protection against accidental hand contact with small quantities of most laboratory chemicals. Lab workers should contact OEHS for advice on chemical resistant gloves.
- Lab coats, closed toed shoes and long sleeved clothing should be worn when handling corrosive materials.
- Additional protective clothing should be worn if the possibility of skin contact is likely.

ENGINEERING/VENTILATION CONTROLS

- Manipulation of corrosive substances should be carried out in a fume hood if corrosive vapor production is anticipated.
- A safety shower and eyewash must be available and accessible when working with corrosive liquids.

SPECIAL HANDLING PROCEDURES AND STORAGE REQUIREMENTS

- Segregate the various types of corrosives. Separate acids and bases. Liquids and solids should also be separated.
- Specially designed corrosion resistant cabinets should be used for the storage of large quantities of corrosive materials.
- Store corrosives on plastic trays.
- All corrosive chemicals must be clearly labeled with the correct chemical name.
- Do not store corrosive materials on high cabinets or shelves.

SPILL AND ACCIDENT PROCEDURES

- Before beginning work with large amounts of corrosive chemicals, develop emergency procedures which address response actions to fires, explosions, spills, injury to staff, or the development of signs and symptoms of overexposure. The procedures should address as a minimum the following:
 - Who to contact: (University police, and Office of Environmental Health and Safety,
 - Principal investigator of the laboratory including evening phone number)
 - The location of all safety equipment (showers, spill clean up supplies, eye wash, fire extinguishers, etc.)
 - The method used to alert personnel in nearby areas of potential hazards
 - Special first aid treatment required by the type of corrosive material(s) handled in the laboratory
- Anticipate spills by having clean up equipment on hand. The appropriate clean up supplies can be determined by consulting the material safety data sheet. This should occur prior to the use of any corrosive chemical. Corrosive spill controls neutralize the hazardous nature of the spilled material. Acids and bases require different types of spill control materials.
- In the event of a spill all personnel in the area should be alerted.
- If the incident involves Hydrofluoric acid (HF), seek immediate medical attention.
- If there is any doubt about the severity of the injury, seek immediate medical attention.
- Do not attempt to handle a large spill of corrosive materials. Vacate the laboratory immediately and call for assistance (Division of Environmental Health & Safety 292-1284 or 911).
- Remain on the scene, but at a safe distance, to receive and direct safety personnel when they arrive.

WASTE DISPOSAL

- Most corrosive materials are hazardous wastes. Questions regarding waste disposal should be directed to the Office of Environmental Health and Safety.

SPECIAL APPROVAL REQUIRED

- No

DECONTAMINATION

Personnel:

- Immediately flush contaminated area with copious amounts of water after contact with corrosive materials.
- Remove any jewelry to facilitate removal of chemicals.
- If a delayed response is noted, report immediately for medical attention. Be prepared to detail what chemicals were involved.

Area:

- Decontamination procedures vary depending on the material being handled. The corrosivity of some materials can be neutralized with other reagents. Special neutralizing agents should be on hand to decontaminate areas.

DESIGNATED AREA

Not applicable