SOP Corrosives other than hydrofluoric acid

Purdue University | Physics Department | PRIME Lab
Applicable rooms: All PRIME Lab areas

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INTRODUCTION

Corrosives are generally acids or bases are dangerous chemicals that are frequently found in the laboratory. Examples include dilute hydrochloric acid, dilute sulfuric acid, phosphoric acid (a week acid in any concentration) and dilute sodium hydroxide solutions.

HAZARDS

May be fatal if inhaled or ingested
Can cause severe burns to skin and eyes
Can cause severe respiratory and digestive tract burns
Can cause deterioration of metal surfaces
Contact with other materials may cause a fire
Some acids have additional hazards, for example nitric acid is also an oxidizer

PROCEDURES

1. Read and understand the MSDS or SDS for any chemicals to be used before starting work.
2. Containers and equipment used for storage and processing of corrosive materials should be corrosion resistant.
3. Appropriate PPE and engineering controls must be used
4. For concentrated strong acids or bases, see the concentrated acid and base SOP.

MINIMUM PPE REQUIREMENTS

1. There must be a working safety shower and eye wash station in the work area
2. Skin cover to throat/wrists/ankles including required lab coat
3. Closed shoes
4. Chemical resistant gloves appropriate for the material used
5. Eye protection
   - Volume < 15 mL Safety glasses with side shields
   - Volume > 15 mL ≤ 1 L Splash goggles or safety glasses with side shields and face shield
   - Volume > 1L Safety glasses with side shields and face shield or work in hood
6. Work in hood if volatile acid or base concentration > 1.5M
7. Any additional requirements of hazard certification in room where work is done

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STORAGE

1 Acids and bases should be stored separately from each other.
2 Organic acids should be stored with flammable materials, separate from oxidizers and oxidizing acids.
3 Acids must also be segregated from chemicals where a toxic gas would be generated upon contact
4 Segregation may be achieved by distance or secondary containment

DISPOSAL

1 All chemical waste must be handled as specified in chapter 7 of the CHP
2 All hazardous chemical waste must be placed in appropriate closed containers
3 Containers must be properly labeled immediately
4 Most acids or bases may not be disposed of in the sink
5 REM will provide for disposal of all waste chemicals

EMERGENCY PROCEDURES

1 Spills should be handled as specified in chapter 8 of the CHP and the MSDS of SDS
2 Skin or eye contact should be washed with water immediately using an emergency shower or eye wash for at least 15 minutes unless otherwise indicated in MSDS or SDS.
3 Skin or eye contact should continue to be treated as specified in the MSDS or SDS
4 For any eye injury or significant other injuries Purdue EMS should be called immediately.
5 All injuries must be treated as specified in section 6.7 of the CHP

APPROVAL

PI Marc Caffee

Signature: M Caffee Date: 6/17/2014