

TEST 2

At 9:30 a.m. a release of 98% concentrated sulfuric acid was discovered. The sulfuric acid is leaking outside the containment area and onto the ground. The release rate is estimated to be one ton per hour from a 1600 ton container. The cause may be due to a tank bottom leak, but confirmation has not been determined at this time.

1. Who should you call?

The situation at 4 p.m. was as follows: A full HAZMAT crew responded to the scene and the leak has been contained. Approximately 200 gallons of sulfuric acid leaked from a tank at the plant. US Coast Guard investigators responded to the incident, however due to the containment of the acid and no waterways being affected, the Environmental Protection Agency will complete the investigation. There were no reported evacuations or injuries.

2. How many pounds of sulfuric acid were released to the ground?

Hint: The formula to convert gallons to pounds is on page 6-15 of the SARA guidebook.

3. Complete the following for sulfuric acid.

CAS number = _____

CERCLA RQ = _____

SARA EHS RQ = _____

SARA sect 313 toxic? _____

Part 5 Rules TRQ = _____

4. What regulations apply? (Assume company is in Michigan.)

Material Safety Data Sheet
(Modified for class use)
Sulfuric acid

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Sulfuric acid

Preparation date of MSDS: 06 July 2011

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage
Sulfuric Acid 7664-93-9	90-100

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: Corrosive to eye tissue and may cause severe damage and blindness.

Skin Contact: Corrosive! Effects on the skin may be delayed and damage may occur without the onset of pain. Causes burns, and brownish or yellow stains. Concentrated solutions may cause second or third degree burns with severe necrosis and may cause permanent scarring. Prolonged and repeated exposure to dilute solutions often causes irritation, redness, pain and drying and cracking of the skin.

Inhalation: Inhalation of the mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. May be fatal if inhaled.

Ingestion: Harmful if swallowed. Causes burns to the mouth, throat and stomach.

4. FIRST AID MEASURES

(omitted)

5. FIRE FIGHTING MEASURES

Flash Point: None.

Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

Special Exposure Hazards: Strong dehydrating agent, which may cause ignition of finely divided combustible materials on contact. Reacts violently with water with the evolution of heat. It can react explosively with organic materials. Reacts with metals to generate flammable hydrogen gas. Reacts violently with water with the evolution of heat. It can react explosively with organic materials. Reacts with many metals to liberate hydrogen gas that can form explosive mixtures with air. Hydrogen, a highly flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage.

Hazardous Decomposition/Combustion Materials (under fire conditions): Oxides of sulfur.

Special Protective Equipment: Fire fighters must wear full face, positive pressure, self-contained breathing apparatus and appropriate protective clothing.

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, INSTABILITY 2

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 3, FLAMMABILITY 0, REACTIVITY 2

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures: Restrict access to unprotected personnel. Wear appropriate protective equipment.

Environmental Precautionary Measures: Prevent entry into sewers or streams, dike if needed. Consult local authorities.

Procedure for Clean Up: Isolate hazard area and restrict access. Stop leak only if safe to do so. Eliminate all ignition sources. Handling equipment must be grounded. Ventilate area. Contain spill with sand or other inert materials. Neutralize with lime slurry, limestone, or soda ash. Absorb with an inert dry material and place in an appropriate waste disposal container.

7. HANDLING AND STORAGE

(omitted)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

(omitted)

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid. (Oily).

Color: Clear to amber.

Odor: Odorless A pungent odor may exist if certain impurities are present in the acid.

pH 0.3

Specific Gravity: 1.84 (98%)

Boiling Point: 337°C /638 °F (98%)

Freezing/Melting Point: 3°C / 37.4 °F (100%)

Vapor Pressure: 0 kPa

Vapor Density: 3.4

% Volatile by Volume: Not Available.

Evaporation Rate: Not Available.

Solubility: Miscible in water.

VOCs: Not Available.

Viscosity: Not Available.

Molecular Weight: 98.08 g/mole

Other: Decomposition : 340 °C/ 644 °F

10. STABILITY AND REACTIVITY

(omitted)

11. TOXICOLOGICAL INFORMATION

(omitted)

12. ECOLOGICAL INFORMATION

(omitted)

13. DISPOSAL CONSIDERATIONS

(omitted)

14. TRANSPORT INFORMATION

(omitted)

15. REGULATORY INFORMATION

U.S. TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) Inventory List or exempt.

U.S. Regulatory Rules

Ingredients: Sulfuric Acid

CERCLA/SARA – Section 302: Listed

SARA (311, 312) Hazard Class: Listed

CERCLA/SARA – Section 313: Listed

California Proposition 65: Not Listed.

MA Right to Know List: Listed.

New Jersey Right-to-Know List: Listed.

Pennsylvania Right to Know List: Listed.

WHMIS Hazardous Class:

D1A VERY TOXIC MATERIALS

D2A VERY TOXIC MATERIALS

E CORROSIVE MATERIAL

16. OTHER INFORMATION

(omitted)