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10/23/92

ComStar International Inc.

I.P.C. Div., ComStar International Inc.
20-45 122th STREET, COLLEGE POINT, NY 11356

MATERIAL SAFETY DATA SHEET — Sulfuric Acid

EMERGENCY TELEPHONE NUMBER (800) 262-8502 SEXAUER CAT. NO. 87072

HAZARD SUMMARY (29 CFR 1910.1200)

Physical Hazards: Oxidizer, Water-reactive
Health Hazards: Corrosive

1. PRODUCT IDENTIFICATION **PRODUCT NAME:** SEXAUER Mule Kick Liquid Acid Drain Cleaner.

Product Name: Sulfuric Acid: Grades; Commercial (93.19/98/99%), Electrolytic
Chemical Name: Sulfuric Acid
Synonyms: Oil of Vitriol, Sulphuric Acid
Chemical Family: Inorganic acid
Molecular Formula: H_2SO_4
WHMIS Classification: Class E — Corrosive, Class D1A — Very Toxic
Product Use: Used in manufacture of fertilizers, explosives, other acids, metal pickling and petroleum processing.

SHIPPING DESCRIPTION

U.S. (Under D.O.T.)
Shipping Name: RQ Sulfuric Acid
Hazard Class: Corrosive Material
Product Identification No: UN1830

CANADA (Under T.C.)
Shipping Name: Sulfuric Acid
Shipping Class/Division: Class 8 (9.2)
Product Identification No (PIN): UN1830
Packing Group: II

HAZARDOUS INGREDIENTS OF MATERIAL

Hazardous Ingredients	%	ACGIH TLV	OSHA PEL	CAS No.
Sulfuric Acid	50-100	1 mg/m³	1 mg/m³	7664-93-9

2. PHYSICAL PROPERTIES

Physical State: Liquid

Appearance And Odor: Commercial sulfuric acid is a clear to amber, heavy, oily liquid which may have a sharp penetrating SO_2 odor. Electrolytic grade is clear and odorless.

Odor Threshold: No data

Boiling Point: 93.19%: 276°C (529°F); 98%: 338°C (639°F)

Melting/Freezing Point: 93.19%: -29.5°C (-21.1°F); 98%: -1.1°C (30°F)

Vapor Pressure at 40°C (102°F): 93.19%: 0.0016 mmHg; 98%: 0.002 mmHg

Specific Gravity at 15°C (60°F): 93.19%: 1.8354; 98%: 1.8437

Vapor Density: No data, not volatile at normal temperatures.
Bulk Density: Not applicable (see specific gravity).
Evaporation Rate: Not applicable
Solubility: Miscible in all proportions in water. Also soluble in alcohol.
% Volatile by Volume: 0% at room temperature.
pH: 0.3 (1N solution at 25°C/78°F)

3. FIRE AND EXPLOSION DATA

Flash Point (method): Not applicable, product is non-flammable
Autoignition Temperature: Not combustible
Flammability Limits in air (%): UEL: Not applicable LEL: Not applicable

Fire Extinguishing Media: Use appropriate media to extinguish source of fire. Use water carefully (see below).

Fire Fighting Procedures: Fire involving small amount of combustibles may be smothered with suitable dry chemical. Use water on combustibles burning in vicinity of this material but use care; water applied directly will cause evolution of heat and cause spattering. Full protective equipment including a self-contained breathing apparatus should be worn.

Other Fire or Explosion Hazards: Not flammable but highly reactive; capable of igniting finely divided combustible materials on contact. Reacts violently with water and organic materials with evolution of heat. Extremely hazardous in contact with many materials, particularly carbides, chlorates, fulminates, nitrates, picrates, powdered metals, releasing hydrogen. Hydrogen gas can accumulate to explosive concentrations inside confined spaces.

Sensitivity to Chemical Impact: No data
Rate of Burning: No data
Explosive Power: No data
Sensitivity to Static Discharge: No data

4. REACTIVITY DATA

Stability:
Under Normal Conditions: Stable
Under Fire Conditions: Decomposes to SO_3
Hazardous Polymerization: Will not occur

Conditions to Avoid: Temperatures which may have a negative effect on the materials of construction used in equipment.

Materials to Avoid: Contact with organic materials (such as chlorates, carbides, fulminates and picrates) may cause fire and explosions. Contact with metals may produce flammable hydrogen gas.

Hazardous Decomposition or Combustion Products: Toxic gases and vapors (e.g., sulfur dioxide, sulfuric acid vapors and sulfur trioxide) may be released when sulfuric acid decomposes.

5. TOXICOLOGICAL AND HEALTH DATA

Recommended Exposure Limit: ACGIH TLV-TWA (1987-88): 1 mg/m³
OSHA PEL (1989): 1 mg/m³

Toxicological Data: LD_{50} (oral, rat) = 2140 mg/kg
LC_{50} (inhalation, rat) = 510 mg/m³ for 2 hrs

Carcinogenicity Data: Although there are reports linking exposure to sulfuric acid to cancer, this product is not classified by NTP (National Toxicology Program), not regulated as carcinogenic by OSHA (Occupational Safety and Health Administration), and has not been evaluated by IARC (International Agency for Research on Cancer) or ACGIH (American Conference of Governmental Industrial Hygienists).

Reproductive Effects: No information is available and no adverse reproductive effects are anticipated.

Mutagenicity Data: No information is available and no adverse mutagenic effects are anticipated.

Teratogenicity Data: No information is available and no adverse teratogenic effects are anticipated.

Synergistic Materials: None known

Effects of exposure when:

Inhaled: Mists and vapors may cause irritation of the eyes, nose and respiratory tract. May cause increased pulmonary resistance, transient cough and bronchoconstriction. Severe overexposure may result in lung collapse and pulmonary edema which can be fatal. Prolonged or repeated exposure may result in impaired lung function and possible discoloration and erosion of teeth.

In contact with the skin: Concentrated solution may cause pain and severe burns to the skin and brownish or yellow stains. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain and drying and cracking of the skin.

In contact with the eyes: Immediate pain, severe burns and permanent corneal damage which may result in blindness.

Ingested: Severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhea and perforation of the esophagus and stomach lining may occur.

Other Health Effects: Corrosive effects on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is **essential.**

First Aid Procedures when:

Inhaled: Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give Cardiopulmonary Resuscitation (CPR) if there is no breathing AND no pulse. Obtain medical attention IMMEDIATELY.

In contact with the skin: Flush skin with running water for **a minimum** of 20 minutes. Start flushing while removing contaminated clothing. If irritation persists, **repeat** flushing. Obtain medical attention IMMEDIATELY. Do not transport victim unless the recommended flushing period is completed or flushing can be continued during transport.

In contact with the eyes: Immediately flush eyes with running water for **a minimum** of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.

Ingested: If victim is alert and not convulsing, rinse out mouth and give ½ to 1 glass of water to dilute material. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY contact local poison control center. Vomiting may need to be induced but should be directed by a physician or a poison control center. IMMEDIATELY transport victim to an emergency facility.

Note to Physician: Medical conditions that may be aggravated by exposure include asthma, bronchitis, emphysema and other lung diseases and chronic nose, sinus or throat conditions. In the event of skin or eye contact, rapid and thorough flushing is **essential.**

8. PREVENTIVE MEASURES

Recommendations listed in this section indicate the type of equipment which will provide protection against over exposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.