KRISS PREMIUM PRODUCTS, INC.
3400 E 42ND STREET
MINNEAPOLIS, MN 55406

EMERGENCY NUMBER:
CHEMTREC 1-800-424-9300 (24HRS)
INFORMATION: (612) 722-8485

SECTION 1: IDENTITY OF MATERIAL — EPA REG NO. N/A

Trade Name: **SULFURIC ACID**

SECTION 2: HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT	%	CAS #	TWA/TLV
SULFURIC ACID	65 to 100	7664-93-9	ACGIH 8 hr TWA ppm 1 mg/m^3 OSHA PEL 8 hr TWA ppm 1 mg/m^3

SECTION 3: PHYSICAL AND CHEMICAL CHARACTERISTICS (Fire and Explosion Data)

Boiling Point: 554 deg. F

Vapor Density: (Air = 1) 3.4

Specific Gravity (H_20=1): 1.8354

Percent Volatile (by weight): N/D

Evaporation Rate (BUTYL1=1): N/D

Solubility in Water: Miscible with water, liberates much heat.

Vapor Pressure: 1 @ 145.8 DEG C / 295 DEG F

Percent volatile by Volume: N/A

pH: < 1

Appearance and Odor: COLORLESS TO CLOUDY LIQUID, OILY APPEARANCE, ODORLESS

SECTION 4: FIRE AND EXPLOSION DATA

Flash Point: Non-flammable as supplied. Concentrate material is a strong dehydrating agent. Reacts with organic materials and may cause ignition of finely divided materials on contact.

Flammability Limits: **LEL:** N/A **UEL:** N/A

Extinguishing Media:
Dry chemical, foam or carbon dioxide. Do not use water on material. However, water spray may be used to keep fire-exposed containers cool.

Special Fire Fighting Procedures:
In the event of a fire, wear full protective clothing and NIOSH approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Structural firefighter's protective clothing is ineffective for fires involving this material. Stay away from sealed containers.

Unusual Fire Explosion Hazards:
Contact with most metals causes formation of flammable and explosive gas.

NFPA Hazard Rating: **Health: 3** **Fire: 0** **Reactivity: 2** **Special: Water Reactive**

SECTION 5: PHYSICAL HAZARDS

Stability: Stable under normal conditions of use and storage. Concentrated solutions react violently with water, spattering and liberating heat.

Conditions to avoid: Heat, moisture, and mixing with incompatible materials.

Incompatibilities:
Water, potassium chlorate, potassium perchlorate, potassium permanganate, sodium, lithium, bases, organic material, halogens, metal acetylides, oxides and hydrides, metals (yield hydrogen gas) , strong oxidizing and reducing agents and many other reactive substances.

Hazardous Decomposition Products:
Toxic fumes of oxides of sulfur when heated to decomposition. Will react with water or steam to produce toxic and corrosive fumes. Reacts with carbonates to generate carbon dioxide gas and with cyanides and sulfides to form poisonous hydrogen cyanide and hydrogen sulfide respectively.

Hazardous Polymerization:
Will not occur.

SECTION 6: HEALTH HAZARDS

Routes of Entry: Inhalation: YES Skin and Eyes: YES Ingestion: YES

Inhalation:
Inhalation produces damaging effects on the mucous membranes and upper respiratory tract. Symptoms may include irritation of the nose and throat, and labored breathing. May cause lung edema, a medical emergency.

Eye Contact:
CORROSIVE - Contact can cause blurred vision, redness, pain and severe tissue burns. Can cause blindness.

Skin Contact:
CORROSIVE - Symptoms of redness, pain and severe burn can occur. Circulatory collapse with clammy skin, wear and rapid pulse, shallow respirations, and scanty urine may follow skin contact or ingestion. Circulatory shock is often the immediate cause of death.

Ingestion:
POISON - CORROSIVE :
Swallowing can cause severe burns of the mouth, throat, and stomach, leading to death. Can cause sore throat, vomiting, and diarrhea. Circulatory collapse with clammy skin, weak and rapid pulse, shallow respirations, and scanty urine may follow ingestion or skin contact. Circulatory shock is often the immediate cause of death.

Chronic Exposure:
Long term exposure to mist or vapors may cause damage to teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Medical conditions aggravated by exposure:
Chronic conjunctivitis, frequent respiratory infections, emphysema, and digestive disturbances, erosion and/or discoloration of teeth have been reported in persons exposed to sulfuric acid over the course of many years.

SECTION 7: FIRST AID MEASURES

Eye Contact:
Immediately flush eyes with gentle but large streams of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Excess acid on skin can be neutralized with 2% solution of bicarbonate of soda. Call a physician immediately. Wash clothing before re-use.

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion:
DO NOT INDUCE VOMITING! Have victim drink large quantities of water. Never give anything by mouth to an unconscious person. **Seek medical help immediately**.

Note:
Remove victim from exposure and provide immediate medical treatment – SPEED IS IMPORTANT
Treat all victims for shock. Medical help should be obtained as quickly as possible.

SECTION 8: TOXICITY

Oral Rat LD 50 – 2140 mg/kg Inhalation rat LC50: 510 mg/m3/2H; standard Draize, eye rabbit, 250 ug (severe); investigated as tumorigen, mutagen, reproductive effector.

Primary Skin – Corrosive
Primary Eye – Corrosive

Carcinogencity: Cancer status: The International Agency for Research on Cancer (IARC) has classified "strong inorganic acid mists containing Sulfuric acid" as a known human carcinogen, (IARC category 1) this classification applies only to mists containing sulfuric acid and not to sulfuric acid or sulfuric acid solutions.

SECTION 9: SPECIAL PROTECTION INFORMATION

Ventilation type:
A system of local and/or general exhaust is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminants at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition for details.

Respiratory Protection:
Use NIOSH approved respirators when the anticipated exposure may exceed the permissible exposure limit (PEL). Do not exceed limits established by the respirator manufacturer. A chemical cartridge/canister with high efficiency filter or an air supplied positive pressure respirator should be used. A self-contained breathing apparatus with full-face piece is required for emergencies and unknown exposure concentrations.

Skin Protection:
Acid proof gloves with long gauntlets to cover wrists. Clothing should be acid resistant, in good condition, and designed to cover exposed skin. Rubber boots, a plastic or rubber utility suit, and an acid hood with cape should be available for immediate use.

Eye Protection:
Wear chemical safety goggles. A face shield maybe worn in addition to the goggles to protect face, neck and forehead. An acid hood with cape should be used for high risk and emergency situations. Contact lenses should be avoided. An eye wash fountain should be located near the work area.

Other Equipment:
Eyewash and showers should be readily available.

SECTION 10: SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURE

Handling and Storage:
A reliable source of clean water located near the work area must be available at all times when transferring occurs. A secondary supply of water located outside the probable spray area is also recommended. Quick opening deluge safety showers that supply water will remain open are recommended. The work area should be well ventilated, adequately lighted, free of tripping hazards, and provide good access for the work to be accomplished. Employees should be trained in the operating and safety procedures to be followed and the emergency procedures to be followed in the event of an unexpected occurrence. Locate all control devices such as valves, switches, and gauges outside the immediate spray areas. Storage's should be vented to prevent excessive pressures or vacuums. The exit of the vent pipe should be terminated in a harmless area. Depressurize all containers before making any connections. Storages should be diked to contain spillage or leaks. Keep flame and spark producing devices away from container openings.

Spill and Leak Procedure:
Ventilate area of leak or spill. Wear appropriate protective equipment. Keep unauthorized persons out of spill area. Contain spill if possible. Recover liquid when possible. Cautiously dilute with water and neutralize with lime or soda ash. Absorb with an inert material (e.g., vermiculite, dry sand, earth). Place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush down sewer. Report spill to the appropriate authorities. Obtain emergency response personnel if required.

Waste Disposal:
Dispose of residues and wastes in compliance with federal, state and local regulations.

SECTION 11 - REGULATORY INFORMATION

Proper Shipping Name: Sulfuric Acid, *with more than 51% acid*

Hazard Class: 8

ID Number: UN1830

Packing Group: II

Label Requirements: Corrosive

Chemical Inventory Status: TSCA: Sulfuric Acid is listed

SARA Title III – Section 302 – 313 Notification

	SARA 302		SARA 313	
Ingredient	RQ	TPQ	LIST	Chemical Catg.
Sulfuric Acid	1000	1000	Yes	NO

Federal, State, & International Regulations

Ingredient	CERCLA	RCRA 261.33	TSCA 8 (d)
Sulfuric Acid	1000	NO	NO

Date prepared: 03/19/01, revised 01/05

Notice: We believe that the information contained on this Material Safety Data Sheet is accurate. The suggested procedures are based on experience as of the date of publication. They are not necessarily adequate in every circumstance. These suggestions should not be confused with or followed in violation of applicable laws, regulations, rules or insurance requirements. The seller makes no warranty expressed or implied concerning the accuracy or any results obtained from the use of any information and no warranty expressed or implied concerning the use of the product. The buyer assumes all risks of the use and/or handling.