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MATERIAL SAFETY DATA SHEET

SULFURIC ACID, 25% V/V **MSDS# 6092**

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME: SULFURIC ACID, 25% V/V CHEMICAL FORMULA: H2SO4
 SYNONYMS: Hydrogen Sulfate, Oil of Vitriol, Matting Acid, Battery Acid

SECTION 2. COMPOSITION INFORMATION ON INGREDIENTS

CHEMICAL NAMES	% (w/w)	ACGIH TLV	OSHA PEL	CAS #
SULFURIC ACID	9.3-51.0%	1 mg/m ³	1 mg/m ³	7664-93-9
WATER	BALANCE	N/A	N/A	7732-18-5

SECTION 3. HAZARDS IDENTIFICATION

PRECAUTIONARY RATINGS

0 = LEAST	HEALTH: 3
1 = SLIGHT	FIRE: 0
2 = MODERATE	REACTIVITY: 1
3 = HIGH	SPECIFIC HAZARD: N/A
4 = EXTREME	EMERGENCY CONTACT: CHEMTREC (800) 424-9300

EMERGENCY OVERVIEW

WARNING! Corrosive liquid. Causes severe burns to eyes and skin. Eye contact causes tissue damage and blindness. Ingestion causes burns to the mouth, throat and the digestive tract. Inhalation causes respiratory tract irritation with possible burns.

CARCINOGENICITY (Sulfuric Acid):

ACGIH: A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)
 OSHA: Select carcinogen
 IARC: Group 1 carcinogen.

SECTION 4. FIRST AID MEASURES

Inhalation: Remove to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid immediately.
Ingestion: DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Skin Contact: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Excess acid on skin can be neutralized with a 2% solution of bicarbonate of soda. Get medical aid immediately.
Eye Contact: Flush opened eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point: N/A. **Method Used:** N/A.
Lower Explosion Limits: N/A. **Upper Explosion Limits:** N/A.
Autoignition temperature: N/A.
Extinguishing Media: Use dry chemical, carbon dioxide or chemical foam. Do not use water on material. Use water spray only to keep fire exposed containers cool.
Fire and Explosion Hazards: May react with organic materials and metals to cause ignition and explosion.
Fire Fighting Instructions: Wear NIOSH-approved self-contained breathing apparatus with full facepiece designed for appropriate pressure and use.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Evacuate the area of all unnecessary personnel. Ventilate area of leak or spill. Neutralize with soda ash or Calcium Carbonate. Wash the neutralized solution down the drain with excess water if local, state and federal regulations allow. Otherwise, containerize for proper disposal.

SECTION 7. HANDLING AND STORAGE

Handling: wash hands thoroughly after handling. Avoid contact with eyes and skin. Use with adequate ventilation. When diluting, always add the acid to water; never add water to the acid.
Storage Requirements: keep storage containers tightly closed in a cool dry place. Do not store near combustible materials. Do not store in metal containers. Do not store near alkaline substances.

SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls: Use local exhaust system for adequate ventilation to keep exposure concentrations low.

Respiratory Protection: Check with supplier or regulatory agency for appropriate NIOSH approved respirators.

Skin Protection: Chemical resistant gloves, lab coats, aprons, coveralls.

Eye Protection: Safety glasses or goggles with full-face shield.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: N/A VAPOR PRESSURE(mmHg): N/A pH: <3
MELTING POINT: <0 C VAPOR DENSITY(air=1): N/A
SPECIFIC GRAVITY: 1.06-1.4 EVAPORATION RATE: N/A
SOLUBILITY(H₂O): INFINITE. APPEARANCE & ODOR: CLEAR, COLORLESS LIQUID, WITH NO ODOR.

SECTION 10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions. Reacts violently with water, organic materials and metals.

INCOMPATIBILITY: Water, organic materials, metals, potassium chlorate, perchlorate, permanganates, bases, halogens, nitrates, oxides and hydrides, strong oxidizing and reducing agents and many other reactive substances.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of sulfur.

CONDITIONS TO AVOID: Heat, moisture, incompatibles.

SECTION 11. TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 7664-93-9: WS5600000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 7664-93-9:

Draize test, rabbit, eye: 250 ug Severe;

Inhalation, mouse: LC50 = 320 mg/m³/2H;

Inhalation, rat: LC50 = 510 mg/m³/2H;

Oral, rat: LD50 = 2140 mg/kg.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Fate: When released into the soil, this material may leach into groundwater. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition. When released into the air, this material may be removed from the atmosphere to a moderate extent by dry deposition.

Environmental Toxicity: This material may be toxic to aquatic life. Fish: Bluegill/Sunfish: 49 mg/L/48Hr in tap water and 24.5 ppm/48Hr in fresh water.

SECTION 13. DISPOSAL CONSIDERATIONS

Neutralize with soda ash or Calcium Carbonate. Wash the neutralized solution down the drain with excess water if local, state and federal regulations allow. Otherwise, containerize for proper disposal.

SECTION 14. TRANSPORT INFORMATION

PLEASE CONTACT SHAPE PRODUCTS FOR TRANSPORT INFORMATION.

SECTION 15. REGULATORY INFORMATION

TSCA Inventory List

All of the ingredients (or their hydrate forms) are listed.

CERCLA Reportable Quantity:

CAS# 7664-93-9: 1000 pounds

Section 302 (TPQ)

CAS# 7664-93-9: 1000 pounds

Sara Title Codes:

CAS # 7664-93-9: acute, chronic, reactive.

OSHA:

This product is not considered to be highly hazardous by OSHA Hazard Communication Standard.

SECTION 16. OTHER INFORMATION

ALL INFORMATION RECOMMENDATIONS AND SUGGESTIONS APPEARING HEREIN CONCERNING OUR PRODUCT ARE BASED UPON TESTS AND DATA BELIEVED TO BE RELIABLE, HOWEVER IT IS THE USER'S RESPONSIBILITY TO DETERMINE THE SAFETY, TOXICITY AND SUITABILITY FOR HIS/HER OWN USE OF THE PRODUCT DESCRIBED HEREIN. RECIPIENTS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED, THAT THE INFORMATION IS CURRENT, APPLICABLE & SUITABLE TO THEIR CONDITIONS. SINCE THE ACTUAL USE BY OTHERS IS BEYOND OUR CONTROL. NO GUARANTEE, EXPRESSED OR IMPLIED IS MADE BY SHAPE PRODUCTS AS TO THE EFFECTS OF SUCH USE, SHAPE PRODUCTS DOES NOT ASSUME ANY LIABILITY ARISING OUT OF USE, BY OTHERS OF THE PRODUCTS REFERRED TO HEREIN. NOR IS THE INFORMATION HEREIN TO BE CONSTRUED AS ABSOLUTELY COMPLETE SINCE ADDITIONAL INFORMATION MAY BE NECESSARY OR DESIRABLE WHEN PARTICULAR OR EXCEPTIONAL CONDITIONS OR CIRCUMSTANCES EXIST OF BECAUSE OF APPLICABLE LAWS OR GOVERNMENT REGULATIONS. N/A= NOT AVAILABLE.