

1 – PRODUCT and COMPANY IDENTIFICATION

PRODUCT NAME:..... SULFURIC ACID, SOLUTION 40%
PRODUCT NUMBER:.....01079
CHEMICAL NAME/CLASS/SYNONYMS:.....OIL OF VITRIOL, DIHYDROGEN SULFATE
RECOMMENDED USE:..... FOR LABORATORY AND MANUFACTURING USE ONLY.

DISTRIBUTOR: **VIKING CHEMICAL**
1827 - 18TH AVENUE
P.O. BOX 1595
ROCKFORD, IL 61110
(815) 397-0500

EMERGENCY PHONE: (800) 424-9300 (CHEMTREC)

2 – HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Substances Corrosive to Metal (1)
Skin Corrosion/Irritation (1A)
Serious Eye Damage/Eye Irritation (1)
Carcinogenicity (1A)
Acute Toxicity Inhalation Vapour (2)
Target Organ Toxicity - Repeated Exposure (2)
Acute Toxicity Inhalation Dust/Mist (4)

GHS LABEL:



SIGNAL WORD: Danger

HAZARD STATEMENTS:

H290: May be corrosive to metals
H314: Causes severe skin burns and eye damage
H330: Fatal if inhaled
H332: Harmful if inhaled
H350: May cause cancer
H371: May cause damage to organs (teeth, respiratory system) through prolonged or repeated exposure (by inhalation)

PRECAUTIONARY STATEMENTS:

P201: Obtain special instructions before use
P202: Do not handle until all safety precautions have been read and understood

P234: Keep only in original packaging.
 P260: Do not breathe dust/fume/gas/mist/vapours/spray
 P264: Wash exposed skin thoroughly after handling.
 P271: Use only outdoors or in a well-ventilated area
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P284: [In case of inadequate ventilation] wear respiratory protection
 P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
 P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
 P310: Immediately call a POISON CENTER/doctor/physician
 P320: Specific treatment is urgent (see on this label).
 P363: Wash contaminated clothing before reuse
 P390 : Absorb spillage to prevent material damage
 P403: Store in a well-ventilated place.
 P233: Keep container tightly closed
 P405: Store locked up
 P406: Store in a corrosion resistant container with a resistant inner liner.
 P501: Dispose of contents/container to comply with local, state and federal regulations

3 – COMPOSITION / INFORMATION ON INGREDIENTS

SUBSTANCE/MIXTURE: Mixture

| CHEMICAL NAME | CAS NUMBER | Wt/Wt% |
|---------------|------------|---------|
| SULFURIC ACID | 7664-93-9 | 40% |
| WATER | 7732-18-5 | BALANCE |

4 – FIRST-AID MEASURES

INHALATION:..... Remove the victim into fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen. Seek immediate medical attention.
EYE CONTACT: Rinse eyes gently with water for at least 15 minutes while holding eyelids apart. Remove contact lenses, if present and easy to do - continue rinsing. Seek immediate medical attention.
SKIN CONTACT: Remove contaminated clothing. Wash exposed area with water. Seek immediate medical attention. Wash contaminated clothing before reuse.
INGESTION: If individual is drowsy or unconscious, do not give anything by mouth. Do not induce vomiting. If possible, do not leave individual unattended. Seek immediate medical attention.
NOTE TO PHYSICIANS: This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed. Following exposure the patient should be kept under medical review for at least 48 hours as delayed pneumonitis may

occur. DO NOT attempt to neutralize the acid with weak bases since the reaction will produce heat that may extend the corrosive injury.

5 – FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam. Dry powder. Carbon dioxide.

UNUSUAL FIRE AND EXPLOSION HAZARDS:Reacts exothermically with water (moisture). Product may react with some metals (ex.: Aluminum, Zinc, Tin, etc.) to release flammable hydrogen gas. Will react with organic materials with evolution of heat and sulfur dioxide. Concentrated acid is a strong oxidizing agent. May cause ignition of combustible materials on contact with generation of sulfur dioxide fumes.

SPECIAL FIRE FIGHTING PROCEDURES:Evacuate area of unprotected personnel. Wear protective clothing including NIOSHapproved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers. Do not get water inside containers. Product generates heat upon addition of water, with possible spattering. Neutralize run-off with Lime, Soda Ash, etc., to prevent corrosion of metals and formation of Hydrogen gas. Run-off from fire control may cause pollution.

6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: ... Wear protective equipment.

ENVIRONMENTAL PRECAUTIONS:Prevent contamination of soil, drains or surface water, use appropriate containment method to avoid environmental contamination.

MEASURES FOR CONTAINMENT AND CLEANING UP: Evacuate unprotected personnel from area. Wear protective equipment. Contain spill, place into drums for proper disposal. Flush remaining area with water and neutralize with Soda Ash or Lime and dispose of properly. Prevent from entering drains, sewers, streams or other bodies of water. Prevent from spreading. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

7 – HANDLING and STORAGE

PRECAUTIONS FOR SAFE HANDLING:Do not get in eyes, on skin or on clothing. Do not breathe vapors or mists. Keep container closed. Use only with adequate ventilation. Use good personal hygiene practices. Clean contaminated clothing.

PRECAUTIONS FOR SAFE STORAGE, INCLUDING INCOMPATIBILITIES: Comply with applicable regulations. Store in tightly closed containers in cool, dry, well-ventilated area away from heat, sources of ignition and incompatible materials. Do not freeze. Highly corrosive to most metals with evolution of hydrogen gas. Explosive/flammable concentrations of hydrogen gas may accumulate inside metal containers. Elevated temperatures will increase the corrosion rate of most metals. Keep containers tightly closed and upright when not in use. Protect against physical damage.

8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:
COMPONENT (CAS NUMBER): Sulfuric Acid, (7664-93-9)
ACGIH 0.2 mg/m³ TWA
OSHA 1 mg/m³ TWA

APPROPRIATE ENGINEERING CONTROLS:Provide sufficient mechanical (general and/or local exhaust) ventilation to keep exposure to airborne contaminants below the exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY PROTECTION:If exposure limits are exceeded, NIOSH approved respiratory protection should be worn. A NIOSH approved respirator for organic vapors is generally acceptable for concentrations up to 10 times the PEL. For higher concentrations, unknown concentrations and for oxygen deficient atmospheres, use a NIOSH approved air-supplied respirator. Engineering controls are the preferred means for controlling chemical exposures. Respiratory protection may be needed for non-routine or emergency situations. Respiratory protection must be provided in accordance with OSHA 29 CFR 1910.134.

SKIN PROTECTION:Avoid skin contact. Wear gloves impervious to conditions of use. Additional protection may be necessary to prevent skin contact including use of apron, face shield, boots or full body protection. A safety shower should be located in the work area.

EYE PROTECTION:Splash proof chemical goggles in compliance with OSHA regulations are advised; or full face shield recommended to protect against splash of product. Have eye-wash stations available where eye contact can occur.

ADDITIONAL MEASURES: N.A.

9 – PHYSICAL / CHEMICAL PROPERTIES

APPEARANCE/ODOR: Clear, colorless liquid/ Mild Odor
ODOR THRESHOLD: N.A.
pH:.....<1
MELTING/FREEZING POINT: -35.56 C or -32 F
BOILING POINT/RANGE: 123.89 C or 255 F
FLASH POINT:..... N.A.
EVAPORATION RATE:..... < 1
FLAMMABILITY: N.A.
LOWER EXPLOSIVE LIMIT: .. N.A.
UPPER EXPLOSIVE LIMIT: N.A.
VAPOR PRESSURE:..... 8 mmHg
VAPOR DENSITY (AIR=1):..... N.A.
RELATIVE DENSITY: N.A.
SOLUBILITY(IES):..... COMPLETE
PARTITION COEFFICIENT: ... N.A.
AUTOIGNITION TEMP: N.A.
DECOMPOSITION TEMP: N.A.
SPECIFIC GRAVITY: N.A.

10 – STABILITY and REACTIVITY

STABILITY: Stable.
POSSIBILITY OF HAZARDOUS REACTIONS:May react with certain metals to produce flammable hydrogen gas. Hazardous gases are evolved on contact with chemicals such as cyanides, sulfides, carbides, etc.
CONDITIONS TO AVOID: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Contact with organic materials may cause fire and explosions. Contact with water may cause violent reaction with evolution of heat. To dilute: Add product slowly to lukewarm water; not water to product.
INCOMPATIBLE MATERIALS:Metals. Water. Alkalies. Strong oxidizing agents. Reducing agents. Carbonates. Cyanides. Sulfides. Carbides. Chlorates. Fulminates. Nitrates. Powdered metals. Organic materials. Combustible materials. Nitrogen compounds. Picrates. Bases. Halogens. Alkali metals. and many other reactive substances.
HAZARDOUS DECOMPOSITION PRODUCTS:.....Sulfur oxides. Sulfuric acid vapors. Hydrogen gas.

11 – TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE: Inhalation, ingestion, skin and/or eye contact
SYMPTOMS OF EXPOSURE:
SKIN CONTACT: Causes severe skin irritation and burns. Concentrated solutions may cause: severe burns. severe necrosis. permanent skin damage. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain and drying and cracking of the skin.
EYE CONTACT: Causes serious eye damage. May cause: blurred vision. redness. pain. conjunctivitis. ulcerations. tissue destruction. permanent eye damage. blindness.
INHALATION: Causes severe irritation and burns. Vapors or mists may damage: mucous membranes. respiratory tract. Vapors or mists may cause: coughing. sore throat. shortness of breath. labored breathing. choking. bronchospasms. chemical pneumonitis. pulmonary edema. death. Effects may be delayed. Chronic exposure may cause: dental erosions. discoloration of teeth. bronchitis. bronchial emphysema.
INGESTION: Causes severe irritation and burns. May cause damage to the: mouth. throat. esophagus. stomach. gastrointestinal tract. May cause: pain. vomiting. diarrhea. bleeding. labored breathing. burns or perforation of the gastrointestinal tract leading to ulceration and secondary infection. death. Effects may be delayed. Aspiration into the lungs may cause chemical pneumonia and lung damage.
ACUTE TOXICITY:..... Inhalation Vapor: 1.0201 mg/L
Inhalation Dust/Mist: 1.0201 mg/L
LD/LC50 VALUES THAT ARE RELEVANT FOR CLASSIFICATION:
ORAL LD50 Rat 2140 mg/kg
INHALATION LCD50 2H Rat: 510.0 mg/m3
ADDITIONAL TOXICOLOGICAL INFORMATION:
CARCINOGENIC CATEGORIES:This product contains 0.1% or more of the following chemicals listed by NTP, IARC or OSHA as known or possible carcinogens: Sulfuric acid mist

12 – ECOLOGICAL INFORMATION

ECOTOXICITY (AQUATIC AND TERRESTRIAL, WHERE AVAILABLE):N.A.
PERSISTENCE AND DEGRADABILITY:N.A.
BIOACCUMULATIVE POTENTIAL:.....N.A.
MOBILITY IN SOIL:..... N.A.
OTHER ADVERSE EFFECTS: . N.A.

13 –DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product should be disposed in an environmentally safe manner in accordance with local, state and federal regulations.

UNCLEANED PACKAGING:.....'Empty' containers retain residue (liquid and/or vapor) and may be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. 'Empty' drums should be completely drained, properly bunged and should be disposed of in an environmentally safe manner and in accordance with local, state and governmental regulations. For work on tanks, please refer to Occupational Safety and Health Administration regulations. ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other governmental and industrial contemplated operations.

14 – TRANSPORTATION INFORMATION

UN/NA NUMBER: UN2796
UN PROPER SHIPPING NAME:SULFURIC ACID SOLUTION
TRANSPORT HAZARD CLASS:8
PACKAGING GROUP : II
MARINE POLLUTANT: NO
REPORTABLE QUANTITY:..... 1000 LB
SPECIAL PRECAUTIONS: N.A.

15 – REGULATORY INFORMATION

Contents of this SDS comply with the OSHA Hazard Communication Standard 29CFR 1910.1200

EPA SRA Title III Chemical Listings:

SECTION 311/312: Immediate (acute): YES
Delayed (chronic): YES
Fire Hazard: NO
Pressure Release: NO
Reactive: YES

SECTION 313: Regulated.

TSCA STATUS: All components in this product are on the TSCA Inventory

16 – OTHER INFORMATION

PREVIOUS SDS REVISION DATE:6/01/15

ABBREVIATIONS AND ACRONYMS:

ACGIH - American Conference of Governmental Industrial Hygienists

CAS - Chemical Abstract Service Number

DOT – U.S. Department of Transportation

IDLH – Immediately dangerous to life and health

N.A. – Not Available

NIOSH - National Institute of Occupational Safety and Health

NTP - National Toxicology Program

OSHA - Occupational Safety and Health Administration

PEL – Permissible exposure Limit

ppm – Parts per million

RCRA – Resource Conservation and Recovery Act

SARA – Superfund Amendments and Reauthorization Act

TLV – Threshold Limit Value

TSCA – Toxic Substances Control Act

DISCLAIMER: The information contained herein is accurate to the best of our knowledge. No warranty of any kind, expressed or implied, concerning the safe use of this material in your process or in combination with other substances.