# SAFETY DATA SHEET

Version 1.0
Revision Date 05/27/2015

## SECTION 1) Chemical Product and Supplier's Identification

**Product ID :** Sulfuric acid

**Synonyms :** Oil of Vitriol, Sulphuric Acid

**Supplier's Name :** Connection Chemical, LP

**Address :** 104 Pheasant Run Ste. 104, Newtown, PA 18940

**Emergency Phone :** CHEMTREC: 1-800-424-9300

**Information Phone :** +1 215-493-4240

**Product/Recommended Uses:** Industrial uses

## SECTION 2) Hazards Identification

**Classification:**

Eye Damage / Irritation - Category 1
Skin Corrosion/Irritation - Category 1A
STOT (Single)- Category 1
Acute Toxicity - Category 4 (Inhalation)
Corrosive to metals category 1
Acute - Environment - Category 3
Chronic - Environment - Category 3

**Pictograms:**

**Signal Word:**

Danger.

**Hazard Statements:**

Causes serious eye damage.
Causes severe skin burns and eye damage.
Harmful if inhaled.
Causes damage to organs.
May be corrosive to metals.
Harmful to aquatic life with long lasting effects.

**Precautionary Statements - General:**

Read label before use.
If medical advice is needed, have product container or label at hand.
Keep out of reach of children.

**Precautionary Statements - Prevention:**

Wear protective gloves/protective clothing/eye protection/face protection.
Wash thoroughly after handling.

Do not breathe fume/ mist/ vapors/ spray.

Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Keep only in original container.

**Precautionary Statements - Response:**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.

Absorb spillage to prevent material damage.

IF exposed or concerned: Call a POISON CENTER/doctor.
Specific treatment (see Section 4 First Aid Measures on this SDS).

**Precautionary Statements - Storage:**

Store locked up in corrosive resistant container with a resistant inner liner. Keep container tightly closed. Store in a well ventilated place.

**Precautionary Statements - Disposal:**

Dispose of contents/container to disposal recycling center.
Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

## SECTION 3) Composition / Information on Ingredients

| CAS | Chemical Name | % by Weight |
|---|---|---|
| 0007664-93-9 | SULFURIC ACID | 72% - 98% |
| 0007732-18-5 | WATER | 8% - 18% |

## SECTION 4) First-aid Measures

**Inhalation:**

Remove source of exposure or move person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. If breathing has stopped, trained personnel should begin rescue breathing or, if the heart has stopped, immediately start cardiopulmonary resuscitation (CPR) or automated external defibrillator.

If breathing is difficult, trained personnel should administer emergency oxygen. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary edema may be delayed.

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment, use the buddy system).

**Eye Contact:**

Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. If a contact lens is present, DO NOT delay flushing or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Continue rinsing for 30 - 60 minutes or until medical aid is available. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a POISON CENTER or doctor. If necessary, continue flushing during transport to hospital.

**Skin Contact:**

Take off immediately all contaminated clothing, shoes, and leather goods (e.g., watchbands, belts). Rinse skin with plenty of lukewarm, gently flowing water for a duration of 30-60 minutes or until medical aid is available.DO NOT INTERRUPT FLUSHING. If it can done safely, continue flushing during transport to hospital. Immediately call a POISON CENTER/doctor. Double bag, seal and label contaminated clothing for safe disposal.

**Ingestion:**

Immediately call a POISON CENTER/doctor. Rinse mouth. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position.

## SECTION 5) Fire-fighting Measures

**Suitable Extinguishing Media:**

Dry chemical, carbon dioxide or foam is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

**Unsuitable Extinguishing Media:**

Do not use water or water-based extinguishing agents. ONLY use water to keep non-leaking, fire-exposed containers cool.

**Specific Hazards in Case of Fire:**

With a source of ignition, ammonia will burn in the range of 16-25% in air.

**Fire-fighting Procedures:**

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Stay upwind and avoid smoke and fumes. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Neutralize runoff with lime, soda ash or other suitable neutralizing agents.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

**Special Fire-fighting Procedures:**

Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

**Specific hazards arising from chemical:**

Contact with water causes violent frothing and spattering. Reacts with metals to produce highly flammable hydrogen gas.Hydrogen can accumulate to explosive concentrations. May ignite other combustible materials. Closed containers may rupture violently when heated releasing contents. In a fire, the following hazardous materials may be generated: corrosive sulfur oxides.

**Special protective actions:**

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

For fighting fire in close proximity to spill or vapors, use acid-resistant personal protective equipment.

## SECTION 6) Accidental Release Measures

**Emergency Procedure:**

Keep unnecessary people away; isolate hazard area and deny entry. Do not touch or walk through spilled material.
Stay upwind; keep out of low areas.

Immediately stop leak if possible without risk. Cover with DRY earth, sand or other non-combustible material or absorb with inert DRY material. Place in appropriate waste disposal container and dispose of water material at an approved waste treatment/disposal facility, in accordance with applicable regulations. Do not dispose waste in normal garbage or sewer systems. Ensure adequate decontamination of tools and equipment following clean up.

If necessary, Consider neutralizing the residue with sodium carbonate, lime or other suitable neutralizing agent.

**Recommended equipment:**

Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

In case of emergency or where there is a strong possibility of considerable exposure, wear a complete acid suit with hood, boots and gloves.

**Personal Precautions:**

Avoid breathing vapor. Avoid contact with skin, eye or clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use explosive proof equipment. Avoid inhalation of dust and contact with skin and eyes. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

**Environmental Precautions:**

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

## SECTION 7) Handling and Storage

**General:**

Wash hands after use.
Do not get in eyes, on skin or on clothing.
Do not breathe vapors or mists.
Use good personal hygiene practices.
Eating, drinking and smoking in work areas is prohibited.
Remove contaminated clothing and protective equipment before entering eating areas.
Eyewash stations and showers should be available in areas where this material is used and stored.

Good general ventilation should be provided to keep vapor and mist concentrations below the exposure limits. Strong inorganic acid mists containing sulfuric acid can be carcinogenic.

**Ventilation Requirements:**

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source. Provide mechanical ventilation for confined spaces. Use explosion-proof ventilation equipment.

Strong inorganic mists containing sulfuric acid can be carcinogenic.

**Storage Room Requirements:**

Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.

CAUTION: Hydrogen a flammable gas, can accumulate to explosive concentrations inside drums, or any types of steel containers or tanks upon storage. Metal and, specifically carbon steel, storage tanks must be vented due to hydrogen release.

Use EXTREME care when diluting with water. Always add acid to water never the reverse. People working with this chemical should be properly trained regarding its hazards and its safe use.

Keep ignition sources away from sulfuric acid storage, handling and transportation equipment.

## SECTION 8) Exposure Controls/Personal Protection

**Appropriate Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

The most effective measures are the total enclosure of processes and the mechanization of handling procedure to prevent all personal contact with sulfuric acid.

**Eye protection:**

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids.If additional protection is needed for entire face, use in combination with a face shield.

**Skin protection:**

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over- boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Where there is a danger of spilling or splashing, acid resistant aprons or suits should be worn. Trouser legs should be worn outside (not tucked in) rubber boots.

Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

**Respiratory protection:**

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Use a NIOSH/MSHA approved air-purfying respirator equipped with acid gas/fume, dust, mist cartridges for concentrations up to 10 mg/m3.

| Chemical Name | OSHA TWA (ppm) | OSHA TWA (mg/m3) | OSHA STEL (ppm) | OSHA STEL (mg/m3) | OSHA-Tables-Z1,2,3 | OSHA Carcinogen | OSHA Skin designation | NIOSH TWA (ppm) | NIOSH TWA (mg/m3) | NIOSH STEL (ppm) | NIOSH STEL (mg/m3) | NIOSH Carcinogen |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SULFURIC ACID | | 1 | | | 1 | | | | 1 | | | |

| Chemical Name | ACGIH TWA (ppm) | ACGIH TWA (mg/m3) | ACGIH STEL (ppm) | ACGIH STEL (mg/m3) | ACGIH Carcinogen | ACGIH Notations | ACGIH TLV Basis |
|---|---|---|---|---|---|---|---|
| SULFURIC ACID | | 0.2 (T) | | | A2 | A2 (M) | Pulm func |

## SECTION 9) Physical and Chemical Properties

**Physical Properties**

| | |
|---|---|
| Density | 15.387 lb/gal |
| % Solids By Weight | 85.000% |
| Density VOC | 0.000 lb/gal |
| % VOC | 0.000% |
| VOC Actual | 0.000 lb/gal |
| VOC Actual | 0.000 g/l |
| Specific Gravity | 1.844 |
| VOC Regulatory | 0.000 lb/gal |
| VOC Regulatory | 0.000 g/l |

| | |
|---|---|
| Appearance | Clear to amber, heavy, oily liquid. |
| Odor Threshold | N.A. |
| Odor Description | N.A. |
| pH | 0.3 (1N solution at 78°F) |
| Water Solubility | Easy soluble in cold water (with liberation of much heat). |
| Flammability | Will not burn |
| Flash Point Symbol | N.A. |
| Flash Point | N.A. |
| Viscosity | N.A. |
| Lower Explosion Level | N.A. |
| Upper Explosion Level | N.A. |
| Vapor Pressure | 0.002 mmHg |
| Vapor Density | 3.4 |
| Freezing Point | 30 °F |
| Melting Point | 30 °F |
| Low Boiling Point | 626 °F |
| High Boiling Point | N.A. |
| Auto Ignition Temp | N.A. |
| Decomposition Pt | N.A. |
| Coefficient Water/Oil | N.A. |
| Evaporation Rate | N.A. |

## SECTION 10) Stability and Reactivity

**Stability:**

Stable, but reacts violently with water and organic materials with evolution of heat.

**Hazardous Polymerization:**

Will not occur.

**Hazardous Decomposition Products:**

Releases sulfur dioxide at extremely high temperatures.

**Incompatible Materials:**

Highly reactive. Reacts violently with cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, powdered metals.Vigorous reactions with water, alkaline solutions, carbides, fulminates, nitrates, picrates, cyanides, chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, strong oxidizing, reducing or combustible organic materials. Hazardous gases are evolved in contact with chemicals such as cyanides, sulfides and carbides.

**Conditions to Avoid:**

Avoid heat, sparks, flame, contact with incompatible materials, water, moisture and humidity.

## SECTION 11) Toxicological Information

**Acute Toxicity:**

Harmful if inhaled.

If inhaled, can cause respiratory irritation and chemical burns to respiratory tract. At high concentrations may cause severe injury, burns, or death. Can cause life-threatening accumulation of fluid in the lungs (pulmonary edema). Inhalation may be fatal as a result of spasm, inflammation , edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. May also affect teeth (changes in teeth and supporting structures - erosion, discoloration).

Breathing of vapors or sprays (mists) may aggravate acute or chronic asthma and chronic pulmonary disease such as emphysema and bronchitis.

If ingested, May cause permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the stomach, GI bleeding, edema of the glottis, necrosis and scarring, and sudden circulatory collapse. It may also cause systemic toxicity with acidosis.

**Skin Corrosion/Irritation:**

Causes severe skin burns and eye damage.

Concentrated solutions may cause second or third degree burns with severe necrosis. Prolonged and repeated exposure to dilute solutions may cause irritation, redness, pain, drying and cracking of skin.

**Serious Eye Damage/Irritation:**

Causes serious eye damage.

Immediate pain, severe burns and corneal damage, which may result in permanent blindness.

**Respiratory or Skin Sensitization:**

No data available.

**Carcinogenicity:**

Strong inorganic acid mists containing sulfuric acid is carcinogenic to man, causing cancer of the larynx.

**Germ Cell Mutagenicity:**

No data available.

**Aspiration Hazard:**

No data available.

**Specific Target Organ Toxicity - Single Exposure:**

Causes damage to organs

**Specific Target Organ Toxicity - Repeated Exposure:**

No data available.

**Reproductive Toxicity:**

Slightly embryotoxic in rabbits ( a minor, rare skeletal variation).

0007664-93-9 SULFURIC ACID

LC50 (rat): 510 mg/m3 (2 hour-exposure) (255 mg/m3 - equivalent 4-hour exposure) (1)
LC50 (mouse): 320 mg/m3 (2-hour exposure) (160 mg/m3 - equivalent 4-hour exposure) (1)

LD50 (oral, rat): 2140 mg/kg (2)

## SECTION 12) Ecological Information

**Toxicity:**

Harmful to aquatic life with long lasting effects.

**Persistence and Degradability:**

No data available.

**Bio-accumulative Potential:**

No data available.

**Mobility in Soil:**

No data available.

**Other Adverse Effects:**

No data available.

## SECTION 13) Disposal Considerations

**Waste Disposal:**

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

## SECTION 14) Transport Information

**For Domestic Shipments - Bulk Packaging:**

Packaging References should be 49CFR, Sections 172.101, 173.154, 173.202,and 173.242
Note: Hazardous Substance - 1000 lbs/454 kg RQ

**For International Shipments:**

U.S. DOT - ID# UN 1830 - Proper Shipping Name is Sulfuric Acid - Hazard Class is 8 - Packaging Group is II
IMDG - ID# UN 1830 - Proper Shipping Name is SULPHURIC ACID - Hazard Class is 8 - Packaging Group is II
IATA - ID# UN 1830 - Proper Shipping Name is SULPHURIC ACID - Hazard Class is 8 - Packaging Group is II
Packaging References - 855, 851, Y840
Note: Hazardous Substance - 1000 lbs/454 kg RQ

## SECTION 15) Regulatory Information

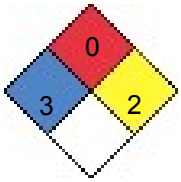
| CAS | Chemical Name | % By Weight | Regulation List |
|---|---|---|---|
| 0007664-93-9 | SULFURIC ACID | 72% - 98% | DSL,CERCLA,SARA312,SARA313,IARCCarcinogen,TSCA,TX_ESL,CA_Prop65 - California Proposition 65,CA_Prop65_Type_Toxicity_Cancer - CA_Proposition65_Type_Toxicity_Cancer,OSHA |
| 0007732-18-5 | WATER | 8% - 18% | DSL,TSCA |

## SECTION 16) Other Information Including Information on Preparation and Revision of the SDS

**Glossary:**

ACGIH- American Conference of Governmental Industrial Hygienists; ANSI- American National Standards Institute; Canadian TDG- Canadian Transportation of Dangerous Goods; CAS- Chemical Abstract Service; Chemtrec- Chemical Transportation Emergency Center (US); CHIP- Chemical Hazard Information and Packaging; DSL- Domestic Substances List; EC- Equivalent Concentration; EH40 (UK)- HSE Guidance Note EH40 Occupational Exposure Limits; EPCRA- Emergency Planning and Community Right-To-Know Act; ESL- Effects screening levels; HMIS- Hazardous Material Information Service; LC- Lethal Concentration; LD- Lethal Dose; NFPA- National Fire Protection Association; OEL- Occupational Exposure Limits; OSHA- Occupational Safety and Health Administration, US Department of Labor; PEL- Permissible Exposure Limit; SARA (Title III)- Superfund Amendments and Reauthorization Act; SARA 313- Superfund Amendments and Reauthorization Act, Section 313; SCBA- Self-Contained Breathing Apparatus; STEL- Short Term Exposure Limit; TCEQ- Texas Commission on Environmental Quality; TLV- Threshold Limit Value; TSCA- Toxic Substances Control Act Public Law 94-469; TWA- Time Weighted Value; US DOT- US Department of Transportation; WHMIS- Workplace Hazardous Materials Information System.

**NFPA**

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**Preparation Information**
Connection Chemical, LP

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