

MATERIAL SAFETY DATA SHEET

SULPHUROUS ACID

(Aqueous Solution)

MSDS CAS: - 7782-99-2

Section 1: Chemical Product and Company Identification

Section 1: Chemical Product

Product Name: SULPHUROUS ACID (Aqueous Solution)

CAS#: - 7782-99-2

C.I. No.: Not available.

Synonym: Sulfurous Acid

Chemical Name: Not available.

Chemical Formula: Not available.

Brand: OXFORD

Details Of The Supplier Of The Safety Data Sheet:

Company identification:

OXFORD LAB FINE CHEM LLP

**Unit. No. 12, 1st Floor, Neminath Industrial Estate No. 6,
Navghar, Vasai (East). Palghar - 401 210.**

Mumbai, Maharashtra, INDIA.

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sulfur dioxide	7446-09-5	6
Water	7732-18-5	94

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion, . Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Severe over-exposure can result in death.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Sulfur dioxide].

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Sulfur dioxide]. Mutagenic for bacteria and/or yeast. [Sulfur dioxide].

TERATOGENIC EFFECTS: Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance may be toxic to mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Cover the irritated skin with an emollient. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. Seek medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:

Slightly explosive in presence of metals. Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:

Contact with copper, bronze or alkali metals may cause fire and explosions. Chlorine trifluoride causes an explosive reaction with sulfur dioxide. Fluorine + sulfur dioxide produces an explosion. (Sulfur dioxide)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Corrosive liquid. Poisonous liquid. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep locked up.. Keep container dry. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Never add water to this product. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

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Section 8: Exposure Controls/Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:

Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Sulfur dioxide TWA: 5.2 STEL: 13 (mg/m³) from ACGIH (TLV) [United States] Inhalation TWA: 2 STEL: 5 (ppm) from ACGIH (TLV) [United States] [1995] Inhalation STEL: 13 (mg/m³) from NIOSH [United States] Inhalation TWA: 2 STEL: 5 (ppm) from NIOSH [United States] Inhalation TWA: 5.2 STEL: 13 (mg/m³) [Canada] Inhalation TWA: 2 STEL: 5 (ppm) from OSHA (PEL) [United States] Inhalation TWA: 5 STEL: 13 (mg/m³) from OSHA (PEL) [United States] Inhalation TWA: 2 STEL: 5 (ppm) [United Kingdom (UK)] Inhalation TWA: 5.2 STEL: 13 (mg/m³) [United Kingdom (UK)] Inhalation Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance	: Liquid.
Odor	: Sulfurous. Pungent. (Strong.)
Taste	: Not available.
Molecular Weight	: Not applicable.
Color	: Not available.
pH (1% soln/water)	: <2 [Acidic.]
Boiling Point	: The lowest known value is 100°C (212°F) (Water).
Melting Point	: Not available.
Critical Temperature	: Not available.
Specific Gravity	: 1.03 (Water = 1)
Vapor Pressure	: The highest known value is 2.3 kPa (@ 20°C) (Water).
Vapor Density	: The highest known value is 0.62 (Air = 1) (Water).
Volatility	: Not available.
Odor Threshold	: Not available.
Water/Oil Dist. Coeff.	: Not available.
Ionicity (in Water)	: Not available.

Section 9: Physical and Chemical Properties (Continued)

Dispersion Properties: See solubility in water, methanol, diethyl ether, acetone.

Solubility:

Easily soluble in cold water, hot water. Soluble in methanol, diethyl ether, acetone.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Slightly reactive to reactive with oxidizing agents, metals, alkalis.

Corrosivity:

Extremely corrosive in presence of copper. Slightly corrosive in presence of aluminum, of stainless steel(304), of stainless steel(316), and bronze. Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Sulfur Dioxide forms corrosive hydrochloric acid fumes in air. It reacts violently with metals such as aluminum and manganese. Sulfur dioxide reacts violently with alcohols, amines, ammonia, chlorates, caustics, zinc, and water. A violent reaction occurs with sodium and sulfur dioxide. It is incompatible with halogens or interhalogens. It attacks some plastics, rubber and coatings. Reacts with water to form sulfurous acid. (Sulfur dioxide)

Special Remarks on Corrosivity:

Corrodes aluminum. Iron, steel, nickel, copper-nickel alloys, and inconel nickel-chromium-iron are satisfactory for dry or hot sulfur dioxide, but they are readily corroded below the dew point or by wet sulfur dioxide gas. Liquide sulfur dioxide produces serious corrosion of iron, brass, copper at about 0.2% or higher moisture content. Sulfur dioxide will attack some forms of plastic, rubber, and coatings. (Sulfur dioxide)

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

LD50: Not available. LC50: Not available.

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified 3 (Not classifiable for human.) by IARC [Sulfur dioxide].

MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Sulfur dioxide]. Mutagenic for bacteria and/or yeast. [Sulfur dioxide]. May cause damage to the following organs: mucous membranes.

Section 11: Toxicological Information (Continued)

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation. Slightly hazardous in case of skin contact (corrosive), of eye contact (corrosive).

Special Remarks on Toxicity to Animals: Lowest Published Toxic Dose: TDL [Human] - Route: Oral; Dose: 500 ug/kg

Special Remarks on Chronic Effects on Humans:

May cause adverse reproductive effects (maternal, paternal, fertility), and birth defects. May affect genetic material (mutagenic); May cause cancer based on animal data. (Sulfur dioxide)

Special Remarks on other Toxic Effects on Humans:

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

14.1. Land transport (ADR-RID)

Proper shipping name	: SULPHUROUS ACID
UN N°	: 1833
H.I. nr	: 80
ADR - Class	: 8

Section 14: Transport Information (Continued)

Labelling – Transport	: 8 : Corrosive substance.
ADR – Group	: II
14.2. Sea transport (IMDG) [English only]	
Proper shipping name	: SULPHUROUS ACID
UN N°	: 1833
IMO-IMDG - Class or division	: 8 : Corrosive substance.
IMO-IMDG - Packing group	: II
14.3. Air transport (ICAO-IATA) [English only]	
Proper shipping name	: SULPHUROUS ACID
UN N°	: 1833
IATA - Class or division	: 8 : Corrosive substance.
IATA - Packing group	: II

Section 15: Other Regulatory Information**Federal and State Regulations:**

Connecticut hazardous material survey.: Sulfur dioxide Illinois toxic substances disclosure to employee act:
Sulfur dioxide Illinois chemical safety act: Sulfur dioxide New York release reporting list: Sulfur dioxide
Rhode Island RTK hazardous substances: Sulfur dioxide Pennsylvania RTK: Sulfur dioxide Minnesota:
Sulfur dioxide Massachusetts RTK: Sulfur dioxide Massachusetts spill list: Sulfur dioxide New Jersey: Sulfur
dioxide New Jersey spill list: Sulfur dioxide New Jersey toxic catastrophe prevention act: Sulfur dioxide
Louisiana RTK reporting list: Sulfur dioxide

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC):

R25- Toxic if swallowed. R36- Irritating to eyes. R40- Possible risks of irreversible effects. S1/2- Keep locked up and out of the reach of children. S36/37- Wear suitable protective clothing and gloves. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Section 15: Other Regulatory Information (Continued)

Personal Protection:

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Face shield.

Section 16 - Additional Information

References: Not available.

Other Special Considerations: Not available.

Disclaimer:

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