

OLEUM 20%

GHS Safety Data Sheet

Version No:2.0

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

SULFURIC ACID FUMING

OTHER NAMES

H₂O₄-S₂O₃-S, "sulfuric acid mixed with sulfur trioxide", "pyrosulfuric acid", "disulfuric acid", "dithionic acid", oleum, sulphuric

PROPER SHIPPING NAME

SULPHURIC ACID, FUMING

PRODUCT USE

For sulfonation and the preparation of mixed acids for nitration.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

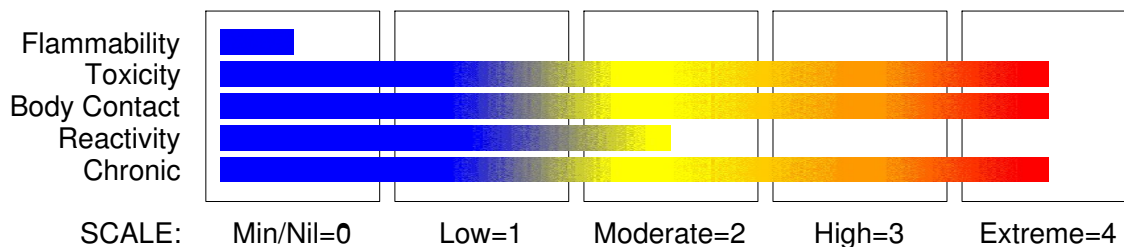
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

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HAZARD RATINGS



Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity (Inhalation) Category 1

Acute Toxicity (Oral) Category 3

Carcinogen Category 1B

Metal Corrosion Category 1

Oxidizing Liquid Category 3

Skin Corrosion/Irritation Category 1A

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Section 2 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW

HAZARD

DANGER

Determined by using GHS criteria:

H274 H330 H301 H350 H290 H314

May intensify fire; oxidizer

Fatal if inhaled

Toxic if swallowed

May cause cancer by inhalation

May be corrosive to metals

Causes severe skin burns and eye damage

PRECAUTIONARY STATEMENTS

Prevention

Wear respiratory protection.

Wear protective gloves/clothing and eye/face protection.

Do not breathe dust/fume/gas/mist/vapours/spray.

Use only outdoors or in a well ventilated area.

Wash thoroughly after handling.

Do not handle until all safety precautions have been read and understood.

Use personal protective equipment as required.

Do not breathe dust or mist.

Obtain special instructions before use.

Do not eat, drink or smoke when using this product.

Wash hands thoroughly after handling.

Response

Absorb spillage to prevent material damage.

Keep container tightly closed.

Wash contaminated clothing before reuse.

If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.

If exposed or concerned: Get medical attention advice.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

Specific treatment: refer to Label or MSDS.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Storage

Store locked up.

Store in a corrosive resistant container with a resistant liner.

Disposal

Dispose of contents and container in accordance with relevant legislation.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sulfuric acid, fuming		>85
sulfur trioxide	7446-11-9	<15

Section 4 - FIRST AID MEASURES

SWALLOWED

Rinse mouth out with plenty of water.

For advice, contact a Poisons Information Centre or a doctor.

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

If this product comes in contact with the eyes:

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin or hair contact occurs:

- Immediately flush body and clothes with large amounts of water, using safety shower if available.
 - Quickly remove all contaminated clothing, including footwear.
 - Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
 - Transport to hospital, or doctor.
- DO NOT attempt to neutralise burns with alkaline solutions.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Transport to hospital, or doctor, without delay.

NOTES TO PHYSICIAN

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is

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Section 4 - FIRST AID MEASURES

contraindicated by excessive swelling

- Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

INGESTION:

- Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.
- Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- Charcoal has no place in acid management.
- Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. DO NOT use neutralising agents or any other additives. Several litres of saline are required.
 - Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
 - Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).
- [Ellenhorn and Barceloux: Medical Toxicology].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Use extinguishing media suitable for surrounding area.
- Water spray or fog, from a safe distance only.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water courses.
- Consider evacuation (or protect in place).
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

HIGHLY CORROSIVE . Non combustible liquid . Reacts vigorously with water.
Reacts with water or steam to produce toxic and corrosive fumes.
Heating may cause expansion or decomposition leading to violent rupture of containers.
Contact with readily oxidisable organic material may cause ignition /fire.
Reacts with metals producing flammable / explosive hydrogen gas.
Decomposes on heating and produces acrid and toxic fumes of: sulfuric acid (H₂SO₄) and

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Section 5 - FIRE FIGHTING MEASURES

sulfur oxides (SO_x).

FIRE INCOMPATIBILITY

Reacts with water or steam to produce toxic and corrosive fumes.

Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

Contact with readily oxidisable organic material may cause ignition /fire.

Personal Protective Equipment

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
 - Avoid breathing vapours and contact with skin and eyes.
 - Control personal contact by using protective equipment.
 - Contain and absorb spill with sand, earth, inert material or vermiculite.
 - Wipe up.
 - Place in a suitable labelled container for waste disposal.
- Use soda ash or slaked lime to neutralise.

MAJOR SPILLS

DO NOT touch the spill material.

- Clear area of personnel and move upwind.
 - Alert Fire Brigade and tell them location and nature of hazard.
 - May be violently or explosively reactive.
 - Wear full body protective clothing with breathing apparatus.
 - Prevent, by any means available, spillage from entering drains or water course.
 - Consider evacuation (or protect in place).
 - Stop leak if safe to do so.
 - Contain spill with sand, earth or vermiculite.
 - Collect recoverable product into labelled containers for recycling.
 - Neutralise/decontaminate residue.
 - Collect solid residues and seal in labelled drums for disposal.
 - Wash area and prevent runoff into drains.
 - After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
 - If contamination of drains or waterways occurs, advise emergency services.
- DO NOT USE WATER OR NEUTRALISING AGENTS INDISCRIMINATELY ON LARGE SPILLS.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

sulfuric acid fuming 30 mg/m³

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

sulfuric acid fuming 10 mg/m³

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Section 6 - ACCIDENTAL RELEASE MEASURES

other than mild, transient adverse effects without perceiving a clearly defined odour is:
sulfuric acid fuming 2 mg/m³

The threshold concentration below which most people will experience no appreciable risk of health effects:
sulfuric acid fuming 1 mg/m³

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+)	>= 0.1%	Toxic (T)	>= 3.0%
R50	>= 0.25%	Corrosive (C)	>= 5.0%
R51	>= 2.5%		
else	>= 10%		

where percentage is percentage of ingredient found in the mixture

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid generating and breathing mist.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Glass carboy . Glass container is suitable for laboratory quantities.
- Check that containers are clearly labelled.
- Packaging as recommended by manufacturer.
- Steel drums
- Road tank vehicles for toxic or corrosive liquids of density >1 complying

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Section 7 - HANDLING AND STORAGE

with Australian Standard 2809 Parts 1 & 4 Type 2 or Type 4.

STORAGE INCOMPATIBILITY

Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.

Reacts vigorously with water and alkali.

Contact with readily oxidisable organic material may cause ignition /fire.

Avoid contamination of water, foodstuffs, feed or seed.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

The following materials had no OELs on our records

- sulfuric acid fuming: CAS:8014- 95- 7
- sulfur trioxide: CAS:7446- 11- 9 CAS:856577- 62- 3

MATERIAL DATA

TLV TWA: 1 mg/m³; STEL: 3 mg/m³ A2 (A2 refers to sulfuric acid contained in strong inorganic acid mists, not to sulfuric acid per se)

WARNING: For inhalation exposure ONLY:

This substance has been classified by the ACGIH as A2 Suspected Human Carcinogen.

ES TWA: 1 mg/m³; STEL: 3 mg/m³

IDLH Level: 80 mg/m³

NOTE: Detector tubes for sulfuric acid, measuring in excess of 1 mg/m³, are commercially available.

Based on controlled inhalation studies the TLV-TWA is thought to be protective against the significant risk of pulmonary irritation and incorporates a margin of safety so as to prevent injury to the skin and teeth seen in battery workers acclimatised to workplace concentrations of 16 mg/m³. Experimental evidence in normal unacclimated humans indicates the recognition, by all subjects, of odour, taste or irritation at 3 mg/m³ or 5 mg/m³. All subjects reported these levels to be objectionable but to varying degrees.

INGREDIENT DATA

SULFUR TRIOXIDE:

None assigned as sulfur trioxide.

Note: sulfur trioxide vapour in contact with air immediately reacts with any moisture present to form sulfuric acid vapour or mist.

PERSONAL PROTECTION

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION



EYE

- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	BE- AUS P	-
1000	50	-	BE- AUS P
5000	50	Airline *	-
5000	100	-	BE- 2 P
10000	100	-	BE- 3 P
	100+		Airline**

* - Continuous Flow

** - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.
For further information consult your
Occupational Health and Safety Advisor.

continued...

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS

Use in a well-ventilated area.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances.

Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25- 0.5 m/s (50- 100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5- 1 m/s (100- 200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1- 2.5 m/s (200- 500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)	2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Colourless, oily, dense, HIGHLY CORROSIVE liquid, may be partly crystallized at room temperature. Strong acid odour.

Available as a range of strengths of sulfur trioxide in sulphuric acid.

Material is a powerful oxidising and dehydrating agent causing rapid human tissue destruction on contact.

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

In the presence of moisture becomes highly corrosive to most metals.
Concentrated acid is very exothermic (generates heat) when mixed with water.
DANGER: Adding water to acid will cause violent steam explosion, scattering corrosive acid. Always add acid slowly to water.
Mixes with water and alcohol in all proportions.
Available in technical, pure and analytical grades

PHYSICAL PROPERTIES

Liquid.
Corrosive.
Acid.
Toxic or noxious vapours/gas.
Contact with water liberates toxic gas.

Molecular Weight: 178.13 (H₂S₂O₇)
Melting Range (°C): 35 15% free SO₃
Solubility in water (g/L): Miscible violent
pH (1% solution): Not applicable
Volatile Component (%vol): Not available
Relative Vapour Density (air=1): >3
Lower Explosive Limit (%): Not applicable
Autoignition Temp (°C): Not applicable
State: Liquid

Boiling Range (°C): 315- 338 decomp.
Specific Gravity (water=1): 1.9
pH (as supplied): < 1
Vapour Pressure (kPa): Negligible
Evaporation Rate: Non Vol. @ 38C
Flash Point (°C): None
Upper Explosive Limit (%): Not applicable
Decomposition Temp (°C): Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be severely damaging to the health of the individual; animal experiments indicate that ingestion of less than 5 gram may be fatal. The material can produce severe chemical burns within the oral cavity and gastrointestinal tract following ingestion.
Considered an unlikely route of entry in commercial/industrial environments.

EYE

The material can produce severe chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.
When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.
The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

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Section 11 - TOXICOLOGICAL INFORMATION

SKIN

The material can produce severe chemical burns following direct contact with the skin. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

INHALED

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation. Exposure to high concentrations causes bronchitis and is characterised by the onset of haemorrhagic pulmonary oedema.

The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation.

Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).

The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.

CHRONIC HEALTH EFFECTS

On the basis of limited epidemiological or animal data, it has been concluded that prolonged inhalation of the material, in an occupational setting, may produce cancer in humans.

Principal routes of exposure are usually by skin contact with the material, with the material, accidental ingestion and inhalation of vapour.

eye contact

Repeated minor exposure to mists can cause erosion of teeth and inflammation of the upper respiratory tract leading to chronic bronchitis.

Repeated skin contact with dilute solutions may cause dermatitis.

Lungs of sulfuric acid plant workers appear to be less affected than the lungs of workers exposed to "dust".

There is evidence that the corrosion of tooth enamel occurs at 1 mg/m³ but that acclimatised workers could tolerate three to four times that level. Forming room workers in a battery factory exposed to 3 to 16 mg/m³ sulfuric acid mist concentrations exhibited the most serious signs of erosion whilst charging room workers, exposed to 0.08 to 2.5 mg/m³ were effected to a lesser degree.

Workers chronically exposed to sulfuric acid mists may show various skin lesions, tracheobronchitis, stomatitis, conjunctivitis and gastritis.

Occupational exposure to strong inorganic acid mists containing sulfuric acid is designated by IARC to be carcinogenic, increased risk of laryngeal cancer being seen with chronic exposures. Repeated minor exposures to mists can cause erosion of teeth and inflammation of the upper respiratory tract leading to chronic bronchitis. Repeated skin contact with dilute solutions may produce dermatitis. Lungs of sulfuric acid plant workers appear to be less affected than the lungs of workers exposed to "dust". There is evidence that corrosion of tooth enamel occurs at 1 mg/m³ but that acclimated workers could tolerate three to four times that level. Forming room workers in a battery factory exposed to 3 to 16 mg/m³ sulfuric acid mist concentrations exhibited the most serious signs of erosion whilst charging room workers, exposed to 0.08 to 2.5 mg/m³ were affected to a lesser degree. Workers chronically exposed to sulfuric acid mists may show various skin lesions, tracheobronchitis, stomatitis, conjunctivitis and gastritis.

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Section 11 - TOXICOLOGICAL INFORMATION

TOXICITY AND IRRITATION

TOXICITY

Oral (rat) LD50: 2140 mg/kg (H₂SO₄)

Inhalation (rat) LC50: 347 mg/m³/1h

Inhalation (human) TCLO: 3 mg/m³/24w

Occupational exposures to strong inorganic acid mists of sulfuric acid:

WARNING: For inhalation exposure ONLY: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS.

The International Agency for research on Cancer (IARC) has determined that occupational exposure to strong inorganic acid mists containing sulfuric acid is Carcinogenic to Humans (Group I) [Monograph Vol. 54]. The ACGIH have listed sulfuric acid with a Proposed A2 (Suspected Human) carcinogen designation subject to approval of membership 5/95.

IRRITATION

Eye (rabbit): 1.38 mg SEVERE

Eye (rabbit): 5 mg/30sec SEVERE

SULFUR TRIOXIDE:

TOXICITY

Inhalation (human) TCLO : 30mg/m³

IRRITATION

Nil Reported

Section 12 - ECOLOGICAL INFORMATION

No data for sulfuric acid fuming.

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
 - Consult State Land Waste Management Authority for disposal.
 - Treat and neutralise at an effluent treatment plant.
 - Use soda ash or slaked lime to neutralise.
 - Recycle containers, otherwise dispose of in an authorised landfill.
- Bury residue in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: CORROSIVE, TOXIC
HAZCHEM: 4WE

UNDG:

Dangerous Goods Class: 8

UN Number: 1831

Shipping Name: SULPHURIC ACID, FUMING

Subrisk:

6.1

Packing Group:

I

Maritime Transport IMDG:

IMDG Class: 8

UN Number: 1831

EMS Number: F- A, S- B

Shipping name: SULPHURIC ACID, FUMING

IMDG Subrisk:

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Packing Group:

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Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:IATA

Section 15 - REGULATORY INFORMATION

REGULATIONS

sulfuric acid fuming (CAS: 8014-95-7) is found on the following regulatory lists;
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk
OECD Representative List of High Production Volume (HPV) Chemicals

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
sulfur trioxide	7446- 11- 9, 856577- 62- 3

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose.

Issue Date: 30-Mar-2018