

## Chemical Safety Data Sheet MSDS / SDS

## Oleum SDS

Revision Date:2024-04-25 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: Oleum

CAS: 8014-95-7

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Skin corrosion, Sub-category 1A

Specific target organ toxicity - single exposure, Category 3

## GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

### Hazard statement(s)

H314 Causes severe skin burns and eye damage

H335 May cause respiratory irritation

### Precautionary statement(s)

#### Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

#### Response

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P363 Wash contaminated clothing before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P316 Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

P319 Get medical help if you feel unwell.

#### Storage

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

#### Disposal

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

**Other hazards which do not result in classification**

no data available

**SECTION 3: Composition/information on ingredients****Substance**

Chemical name: Oleum

Common names and synonyms: Oleum

CAS number: 8014-95-7

EC number: 616-954-1

Concentration: 100%

**SECTION 4: First aid measures****Description of necessary first-aid measures****If inhaled**

Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer immediately for medical attention.

**Following skin contact**

Wear protective gloves when administering first aid. First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again. Refer immediately for medical attention.

**Following eye contact**

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

**Following ingestion**

Rinse mouth. Give nothing to drink. Do NOT induce vomiting. Refer immediately for medical attention.

**Most important symptoms/effects, acute and delayed**

no data available

Indication of immediate medical attention and special treatment needed, if necessary

no data available

## SECTION 5: Firefighting measures

### Suitable extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### Specific hazards arising from the chemical

Not combustible. Many reactions may cause fire or explosion. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion on contact with bases, combustible substances, reducing agents, water or organic materials.

### Special protective actions for fire-fighters

NO water. In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water. NO direct contact of the substance with water.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Evacuate danger area! Consult an expert! Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Do NOT absorb in saw-dust or other combustible absorbents. Collect leaking liquid in sealable containers. Absorb remaining liquid in dry sand or inert absorbent. Then store and dispose of according to local regulations. Cautiously neutralize remainder with lime or soda ash.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## SECTION 7: Handling and storage

### Precautions for safe handling

NO contact with incompatible materials: See Chemical Dangers Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Dry. Separated from food and feedstuffs and incompatible materials. See Chemical Dangers. Store only in original packaging. Ventilation along the floor.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

Component	Oleum			
CAS No.	8014-95-7			
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
USA - NIOSH	?	1	?	?
	Remarks			

### Biological limit values

no data available

### Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures, such as personal protective equipment (PPE)

#### Eye/face protection

Wear face shield or eye protection in combination with breathing protection.

### **Skin protection**

Protective gloves. Protective clothing. Apron.

### **Respiratory protection**

Use ventilation, local exhaust or breathing protection.

### **Thermal hazards**

no data available

## **SECTION 9: Physical and chemical properties and safety characteristics**

Physical state: Colorless, oily, fuming liquid. /H<sub>2</sub>O: soluble

Colour: no data available

Odour: no data available

Melting point/freezing point: 2 °C

Boiling point or initial boiling point and boiling range: 330 °C at 760 mmHg

Flammability: no data available

Lower and upper explosion limit/flammability limit: no data available

Flash point: no data available

Auto-ignition temperature: no data available

Decomposition temperature: no data available

pH: no data available

Kinematic viscosity:	no data available
Solubility:	Solubility in water: miscible, reaction
Partition coefficient n-octanol/water:	no data available
Vapour pressure:	1 mm Hg ( 146 °C)
Density and/or relative density:	1.925g/mL at 25 °C (lit.)
Relative vapour density:	<0.3 (25 °C, vs air)
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

no data available

### Chemical stability

no data available

### Possibility of hazardous reactions

The vapour is heavier than air. Decomposes on heating. This produces toxic and corrosive gases including sulfur oxides. The substance is a strong oxidant. It reacts with combustible and reducing materials and organic materials. This generates fire and explosion hazard. The solution in water is a strong acid. It reacts violently with bases and is corrosive to metals. This produces flammable/explosive gas (hydrogen - see ICSC 0001). Reacts violently with water and moist air. This produces sulfuric acid. See Notes. Attacks some plastics.

### Conditions to avoid

no data available

**Incompatible materials**

no data available

**Hazardous decomposition products**

no data available

**SECTION 11: Toxicological information****Acute toxicity**

Oral: no data available

Inhalation: no data available

Dermal: no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available



### **STOT-single exposure**

The substance is very corrosive to the eyes, skin and respiratory tract. Corrosive on ingestion. Exposure could cause asphyxiation due to swelling in the throat. Inhalation of high concentrations may cause lung oedema, but only after initial corrosive effects on the eyes and the upper respiratory tract have become manifest. Inhalation may cause asthma-like reactions (RADS). Medical observation is indicated. See Notes.

### **STOT-repeated exposure**

Repeated or prolonged contact with skin may cause dermatitis. Repeated or prolonged inhalation of the aerosol may cause effects on the lungs. Risk of tooth erosion upon repeated or prolonged exposure to an aerosol of this substance. Mists of this strong inorganic acid are carcinogenic to humans. See Notes.

### **Aspiration hazard**

A harmful contamination of the air will be reached quickly on evaporation of this substance at 20°C.

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### **Persistence and degradability**

no data available

### **Bioaccumulative potential**

no data available

### **Mobility in soil**

no data available

### Other adverse effects

no data available

## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## SECTION 14: Transport information

### UN Number

ADR/RID: UN1831 (For reference only, please check.)

IMDG: UN1831 (For reference only, please check.)

IATA: UN1831 (For reference only, please check.)

### UN Proper Shipping Name

ADR/RID: SULPHURIC ACID, FUMING (For reference only, please check.)

IMDG: SULPHURIC ACID, FUMING (For reference only, please check.)

IATA: SULPHURIC ACID, FUMING (For reference only, please check.)

### Transport hazard class(es)

ADR/RID: 8 (For reference only, please check.)

IMDG: 8 (For reference only, please check.)

IATA: 8 (For reference only, please check.)

### Packing group, if applicable

ADR/RID: I (For reference only, please check.)  
IMDG: I (For reference only, please check.)  
IATA: I (For reference only, please check.)

#### **Environmental hazards**

ADR/RID: No  
IMDG: No  
IATA: No

#### **Special precautions for user**

no data available

#### **Transport in bulk according to IMO instruments**

no data available

### **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Not Listed.

**EC Inventory**

Not Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Not Listed.

**China Catalog of Hazardous chemicals 2015**

Listed.

**New Zealand Inventory of Chemicals (NZIoC)**

Listed.

**(PICCS)**

Listed.

**Vietnam National Chemical Inventory**

Listed.

**IECSC)**

Listed.

**Korea Existing Chemicals List (KECL)**

Listed.

## **SECTION 16: Other information**

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### **References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### **Other Information**

The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. IARC considers mists of strong inorganic acid to be carcinogenic (group 1). However there is no information available on the carcinogenicity of other physical forms of this substance. Therefore no classification for carcinogenicity under GHS has been applied. NEVER pour water into this substance; when dissolving or diluting always add it slowly to the water. The amount of free sulfur trioxide may vary, which can change the physical properties, and therefore no figure for the molecular weight is given. Reported vapour pressure values differ greatly (from 0.3 to 21.9 kPa). Boiling points of solutions (% SO<sub>3</sub>): 138°C (20%), 116°C (30%), 60°C (65%). Melting points (% SO<sub>3</sub>): 2°C (20%), 21°C (30%), 5°C (65%). See ICSCs 0362 and 1202.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any