Oleum with <30% free sulfur trioxide

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision Date: 05/01/15 Issue Date: 05/01/15 Version: 1.0

SECTION 1: IDENTIFICATION

Product Identifier

Product Form: Substance

Product Name: Oleum with <30% free sulfur trioxide

Formula: H2SO4-SO3

Intended Use of the Product

Used in the manufacture of organic sulfonates, fibers and explosives

Use of the Substance/Mixture: Industrial use.

Name, Address, and Telephone of the Responsible Party

Manufacturer

CHEMTRADE LOGISTICS INC.
155 Gordon Baker Road
Suite 300
Toronto, Ontario M2H 3N5
For MSDS Info: (416) 496-5856
www.chemtradelogistics.com

Emergency Telephone Number

Emergency number : Canada: CANUTEC +1-613-996-6666 / US: CHEMTREC +1-800-424-9300
Chemtrade Emergency Contact: (866) 416-4404
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

Acute Tox. 1 (Inhalation:vapour)	H330
Skin Corr. 1A	H314
Eye Dam. 1	H318
STOT SE 3	H335

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS05 GHS06 GHS07

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) : H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H330 - Fatal if inhaled
H335 - May cause respiratory irritation

Precautionary Statements (GHS-US) : P260 - Do not breathe fume, mist, vapors, spray
P261 - Avoid breathing fume/mist/vapors/spray
P264 - Wash exposed areas. thoroughly after handling
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear eye protection, face protection, protective gloves, protective clothing
P284 - Wear respiratory protection
P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing

P305+P351+P338 - 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 or doctor/physician
P312 - Call a POISON CENTER/doctor/physician if you feel unwell
P320 - Specific treatment is urgent (see Section 4 on this label)
P363 - Wash contaminated clothing before reuse
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container according to local, regional, national, and international regulations

Other Hazards

Other Hazards Not Contributing to the Classification: Not available

Unknown Acute Toxicity (GHS-US) Not available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Name	Product identifier	% (w/w)	Classification (GHS-US)
Sulfuric acid, fuming	(CAS No) 8014-95-7	100	Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335
Sulfuric acid	(CAS No) 7664-93-9		Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318 Carc. 1A, H350

Mixture

Not applicable

SECTION 4: FIRST AID MEASURES

Description of First Aid Measures

General: IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: Using proper respiratory protection, immediately move the exposed person to fresh air. Keep at rest and in a position comfortable for breathing. Give oxygen or artificial respiration if necessary. Seek immediate medical advice. Symptoms may be delayed.

Skin Contact: Remove/Take off immediately all contaminated clothing. Immediately flush skin with plenty of water for at least 60 minutes. Seek medical attention. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Most Important Symptoms and Effects Both Acute and Delayed

General: Corrosive. Causes burns.

Inhalation: May be fatal if inhaled. Corrosive to the respiratory tract. May cause pulmonary edema. Symptoms may be delayed.

Skin Contact: Highly corrosive to skin.

Eye Contact: Causes serious eye damage. Can cause blindness.

Ingestion: Swallowing a small quantity of this material will result in serious health hazard. May be fatal if swallowed.

Chronic Symptoms: Not available

Indication of Any Immediate Medical Attention and Special Treatment Needed

If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: earth, sand, dry chemical powder or foam. Use extinguishing media appropriate for surrounding fire.

Unsuitable Extinguishing Media: Reacts violently on contact with water. Do not get water inside containers. Do not apply water stream directly at source of leak.

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not flammable. Under conditions of fire this material may produce: Sulphur oxides.

Explosion Hazard: Product is not explosive.

Reactivity: Reacts with water.

Advice for Firefighters

Precautionary Measures Fire: Not available

Firefighting Instructions: Keep upwind. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities if liquid enter sewers or waterways.

Hazardous Combustion Products: Sulphur oxides.

Other information: Do not allow run-off from fire fighting to enter drains or water courses.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures Not available

For Non-Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area. Keep upwind.

For Emergency Personnel

Protective Equipment: Use recommended respiratory protection. Wear suitable protective clothing, gloves and eye/face protection.

Emergency Procedures: Stop leak if safe to do so. Eliminate ignition sources. Evacuate unnecessary personnel. Ventilate area.

Environmental Precautions

If spill could potentially enter any waterway, including intermittent dry creeks, contact the U.S. COAST GUARD NATIONAL RESPONSE CENTER at 800-424-8802. In case of accident or road spill notify CHEMTREC at 800-424-9300 (in USA) or CANUTEC at 613-996-6666 (in Canada). In other countries call CHEMTREC at (International code) +1-703-527-3887.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Ventilate area. Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal. Collect absorbed material and place into a sealed, labelled container for proper disposal. Practice good housekeeping - spillage can be slippery on smooth surface either wet or dry.

Reference to Other Sections

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Wash contaminated clothing before reuse.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in dry protected location to prevent any moisture contact. Detached outside storage is preferable.

Incompatible Materials: Reducing agents. Organic materials. Alkalis. Moisture.

Storage Area: Store in dry, cool area. Store in a well-ventilated place.

Specific End Use(s) Used in the manufacture of organic sulfonates, fibers and explosives

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Sulfuric acid (7664-93-9)		
Mexico	OEL TWA (mg/m³)	1 mg/m³
USA ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³
USA OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
USA NIOSH	NIOSH REL (TWA) (mg/m³)	1 mg/m³
USA IDLH	US IDLH (mg/m³)	15 mg/m³
Alberta	OEL STEL (mg/m³)	3 mg/m³
Alberta	OEL TWA (mg/m³)	1 mg/m³
British Columbia	OEL TWA (mg/m³)	0.2 mg/m³ (Thoracic, contained in strong inorganic acid mists)
Manitoba	OEL TWA (mg/m³)	0.2 mg/m³
New Brunswick	OEL STEL (mg/m³)	3 mg/m³
New Brunswick	OEL TWA (mg/m³)	1 mg/m³
Newfoundland & Labrador	OEL TWA (mg/m³)	0.2 mg/m³
Nova Scotia	OEL TWA (mg/m³)	0.2 mg/m³
Nunavut	OEL STEL (mg/m³)	3 mg/m³
Nunavut	OEL TWA (mg/m³)	1 mg/m³
Northwest Territories	OEL STEL (mg/m³)	3 mg/m³
Northwest Territories	OEL TWA (mg/m³)	1 mg/m³
Ontario	OEL TWA (mg/m³)	0.2 mg/m³
Prince Edward Island	OEL TWA (mg/m³)	0.2 mg/m³
Québec	VECD (mg/m³)	3 mg/m³
Québec	VEMP (mg/m³)	1 mg/m³
Saskatchewan	OEL STEL (mg/m³)	0.6 mg/m³
Saskatchewan	OEL TWA (mg/m³)	0.2 mg/m³
Yukon	OEL STEL (mg/m³)	1 mg/m³
Yukon	OEL TWA (mg/m³)	1 mg/m³

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure, but are not required. Product to be handled under strictly controlled conditions. Ensure all national/local regulations are observed. Ensure all national/local regulations are observed.

Personal Protective Equipment: Face shield. Gas mask at concentration in the air > > TLV. Protective clothing. Gloves. Corrosionproof clothing.

Materials for Protective Clothing: Acid-resistant clothing.

Hand Protection: Impermeable protective gloves.

Eye Protection: Face shield.

Skin and Body Protection: Wear suitable protective clothing. Chemical resistant suit. Rubber apron, boots.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State : Liquid

Appearance : Clear, colorless to amber. Oily.

Odor : Sharp.

Odor Threshold : < 1 ppm

pH : < 0.3

Relative Evaporation Rate (butylacetate=1) : 0.56

Melting Point : 10.4 °C (50.7 °F) 10%: -2°C (28.4°F); 20%: 1°C (33.8°F); 25%: 14°C (57.2°F); 7%: 32°C (89.6°F)

Freezing Point : Not available

Boiling Point	:	290 °C (554 °F),10%: 175°C (347°F); 20%: 140°C (284°F); 25%: 130°C (266°F); 37%: 100°C (212°F).
Flash Point	:	Not applicable
Critical temperature	:	Not applicable
Auto-ignition Temperature	:	Not applicable
Decomposition Temperature	:	Not applicable
Flammability (solid, gas)	:	Not applicable
Lower Flammable Limit	:	Not applicable
Upper Flammable Limit	:	Not applicable
Vapor Pressure	:	0.0035 mm Hg at 20 °C (68 °F): 10%: 0.4 mmHg; 20%: 1.1 mmHg; 25%: 2.9 mmHg, 37%: 47.8 mmHg
Relative Vapor Density at 20 °C	:	2.8 (air = 1)
Relative Density	:	1.83 @ 4°C (39°F): 10%: 1.880; 20%: 1.916; 25%: 1.935; 37%: 1.976
Specific Gravity	:	1.89 g/l
Solubility	:	Water: Miscible. Reacts violently with water.
Partition coefficient: n-octanol/water	:	Not available
Viscosity	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Reacts with water.

Chemical Stability: Stable at standard temperature and pressure. Violent exothermic reaction with water (moisture): release of corrosive products.

Possibility of Hazardous Reactions: Reacts violently with water. Hazardous polymerization will not occur.

Conditions to Avoid: Protect from moisture.

Incompatible Materials: Avoid contact with carbides, hydrogen sulfide, turpentine, organic acids, combustibles (wood, paper, cotton) and other organic and readily oxidized materials.

Hazardous Decomposition Products: Under conditions of fire this material may produce: Sulphur oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Fatal if inhaled.

LD50 and LC50 Data:

Oleum with <30% free sulfur trioxide	
ATE US (vapors)	0.05000000 mg/l/4h

Skin Corrosion/Irritation: Causes severe skin burns and eye damage.

pH: < 0.3

Serious Eye Damage/Irritation: Causes serious eye damage.

pH: < 0.3

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Teratogenicity: Not available

Carcinogenicity: Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): May cause respiratory irritation.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: May be fatal if inhaled. Corrosive to the respiratory tract. May cause pulmonary edema. Symptoms may be delayed.

Symptoms/Injuries After Skin Contact: Highly corrosive to skin.

Symptoms/Injuries After Eye Contact: Causes serious eye damage. Can cause blindness.

Symptoms/Injuries after Ingestion: Swallowing a small quantity of this material will result in serious health hazard. May be fatal if swallowed.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Sulfuric acid, fuming (8014-95-7)	
LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat (ppm)	347 ppm/1h

Sulfuric acid (7664-93-9)	
LD50 Oral Rat	2140 mg/kg
LC50 Inhalation Rat (mg/l)	510 mg/m³ (Exposure time: 2 h)

Sulfuric acid, fuming (8014-95-7)	
IARC Group	1

Sulfuric acid (7664-93-9)	
IARC Group	1

SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Sulfuric acid (7664-93-9)	
LC50 Fish 1	500 mg/l (Exposure time: 96 h - Species: Brachydanio rerio [static])

Persistence and Degradability

Oleum with <30% free sulfur trioxide	
Persistence and Degradability	Product is biodegradable.

Bioaccumulative Potential

Oleum with <30% free sulfur trioxide	
Bioaccumulative Potential	Not expected to bioaccumulate.

Sulfuric acid (7664-93-9)	
BCF fish 1	(no bioaccumulation)

Mobility in Soil Not available

Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1 In Accordance with DOT

Proper Shipping Name : SULFURIC ACID, FUMING WITH LESS THAN 30 PERCENT FREE SULFUR TRIOXIDE
Hazard Class : 8
Identification Number : UN1831
Label Codes : 8
Packing Group : I
ERG Number : 157

14.2 In Accordance with IMDG

Proper Shipping Name : SULPHURIC ACID, FUMING
Hazard Class : 8
Identification Number : UN1831
Packing Group : I
Label Codes : 8,6.1
EmS-No. (Fire) : F-A
EmS-No. (Spillage) : S-B

14.3 In Accordance with IATA

Proper Shipping Name : FORBIDDEN

14.4 In Accordance with TDG

Proper Shipping Name : SULPHURIC ACID, FUMING

Packing Group : I

Hazard Class : 8

Identification Number : UN1831

Label Codes : 8,6.1

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

Oleum with <30% free sulfur trioxide	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Reactive hazard

Sulfuric acid (7664-93-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on SARA Section 302 (Specific toxic chemical listings) Listed on SARA Section 313 (Specific toxic chemical listings)	
SARA Section 302 Threshold Planning Quantity (TPQ)	1000
SARA Section 313 - Emission Reporting	1.0 % (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

US State Regulations

Oleum with <30% free sulfur trioxide()
Strong inorganic acid mists containing sulfuric acid are present on the State of California list of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity (Cal Prop 65).

Sulfuric acid (7664-93-9)	
U.S. - California - Proposition 65 - Carcinogens List	WARNING: This product contains chemicals known to the State of California to cause cancer.

Sulfuric acid, fuming (8014-95-7)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Sulfuric acid (7664-93-9)
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List U.S. - Pennsylvania - RTK (Right to Know) List

Canadian Regulations

Oleum with <30% free sulfur trioxide	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material Class F - Dangerously Reactive Material

Sulfuric acid, fuming (8014-95-7)	
WHMIS Classification	Class C - Oxidizing Material

	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class E - Corrosive Material

Sulfuric acid (7664-93-9)	
Listed on the Canadian DSL (Domestic Substances List) inventory. Listed on the Canadian Ingredient Disclosure List	
WHMIS Classification	Class D Division 1 Subdivision B - Toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class E - Corrosive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision date : 05/01/15

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Acute Tox. 1 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 1
Acute Tox. 2 (Inhalation:vapour)	Acute toxicity (inhalation:vapour) Category 2
Carc. 1A	Carcinogenicity Category 1A
Carc. Not classified	Carcinogenicity Not classified
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Met. Corr. 1	Corrosive to metals Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H290	May be corrosive to metals
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
H350	May cause cancer

Party Responsible for the Preparation of This Document

CHEMTRADE LOGISTICS, INC.

For MSDS Info: (416) 496-5856

Handle product with due care and avoid unnecessary contact. This information is supplied under U.S. OSHA'S "Right to Know" (29 CFR 1910.1200) and Canada's WHMIS regulations. Although certain hazards are described herein, we cannot guarantee these are the only hazards that exist. The information contained herein is based on data available to us and is believed to be true and accurate but it is not offered as a product specification. No warranty, expressed or implied, regarding the accuracy of this data, the hazards connected with the use of the product, or the results to be obtained from the use thereof, is made and Chemtrade and its affiliates assume no responsibility. Chemtrade is a member of the CIAC (Chemistry Industry Association of Canada) and adheres to the codes and principles of Responsible Care™.

Responsible Care® Our commitment to sustainability. Gestion responsable™ Notre engagement envers le développement durable.

Chemtrade North America SDS Template