

SAFETY DATA SHEET

Sulphuric Acid 96 %

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	24.11.2015
Revision date	29.05.2017

1.1. Product identifier

Product name	Sulphuric Acid 96 %
Synonyms	Svovelsyre 96 %
REACH Reg. No.	01-2119458838-20
CAS no.	7664-93-9
EC no.	231-639-5
Index no.	016-020-00-8
Formula	H ₂ SO ₄
Extended SDS with ES incorporated, Comments	Exposure Scenario available.

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/preparation	pH-regulation. Process-chemicals. Liquid for metal surface treatment. Chemical/technical industry.
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1.3. Details of the supplier of the safety data sheet

Distributor

Company name	Acinor AS
Office address	Titangt. 13, NO-1630 Gamle Fredrikstad
Postal address	Titangaten 13
Postcode	1630
City	Gamle Fredrikstad
Country	Norway
Tel	69384082
Fax	69384084
E-mail	post@acinor.no
Website	www.acinor.no
Enterprise no.	NO 984 648 324 MVA

1.4. Emergency telephone number

Emergency telephone	Tel: +47 22 59 13 00 Description: Norwegian Poison Information Center
	Tel: 112 or 999 Description: Ambulance

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]	Skin Corr 1A; H314 Eye Dam. 1; H318
Substance / mixture hazardous properties	Causes severe burns to skin and eyes.
Additional information on classification	See supplementary information (section 16).

2.2. Label elements

Hazard Pictograms (CLP)



Signal word	Danger
Hazard statements	H314 Causes severe skin burns and eye damage.
Precautionary statements	P280 Wear protective gloves / protective clothing / eye protection / face 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. 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. P405 Store locked up. P501 Dispose of contents / container to an approved waste disposal plant.

2.3. Other hazards

PBT / vPvB	The chemical contains no PBT or vPvB substances.
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SECTION 3: Composition/information on ingredients

3.1. Substances

Substance	Identification	Classification	Contents
Sulphuric acid...%	CAS no.: 7664-93-9 EC no.: 231-639-5 Index no.: 016-020-00-8 REACH Reg. No.: 01-2119458838-20	Skin Corr 1A;H314	91 – 99.5 %
Substance comments	See section 16 for explanation of hazard statements (H) listed above.		

SECTION 4: First aid measures

4.1. Description of first aid measures

General	Emergency telephone number: see section 1.4. In case of unconsciousness or severe accidents, call 112.
Inhalation	Rinse nose and mouth with water. Fresh air and rest. Consult a physician. For breathing difficulties oxygen may be necessary. Perform artificial respiration if breathing has stopped. Get medical attention.
Skin contact	Rinse immediately with plenty of water. Remove contaminated clothing. Get medical attention immediately. Chemical burns must be treated by a physician.
Eye contact	Promptly rinse eyes with plenty of water (tempered at 20-30°C) for at least 30 minutes. Remove contact lenses and open eyes wide apart. Transport to physician. Keep on flushing during transport.
Ingestion	Rinse mouth with water. Drink plenty of water. Liquid can also be given as milk or cream. Never give liquid to an unconscious person. Do not induce vomiting. Get medical attention immediately! Transport to hospital. Bring the safety data sheet.

4.2. Most important symptoms and effects, both acute and delayed

Information for health personnel	Treat as chemical burns/scalding. Risk of perforation of the esophagus. Hospital treatment is required.
Acute symptoms and effects	Inhalation: Inhalation of vapors may cause severe irritation or burns in the respiratory tract. Eye contact: The chemical is corrosive to the eyes and may cause permanent damage. Symptoms such as strong burning, tearing/watering, redness and blurred vision may occur. In severe cases, there is a risk of visual damage/blindness. Skin contact: Burning pain and severe corrosive skin damage. Forms blisters and can cause ulceration. Ingestion: Causes burns if swallowed. Causes burning sensation in the mouth, throat and esophagus. May cause serious permanent damage. Risk of perforation of the stomach if there has been swallowed large amounts.

4.3. Indication of any immediate medical attention and special treatment needed

Other Information	Treat symptomatically. Symptoms may be delayed. No specific information from the manufacturer.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Dry-powder, carbon dioxide (CO ₂), water mist, alcohol resistant foam.
Improper extinguishing media	Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	The chemical is not classified as flammable.
Hazardous combustion products	May include, but is not limited to: Carbon dioxide (CO ₂). Carbon monoxide (CO). Oxides of sulphur (SO _x). Hydrogen.

5.3. Advice for firefighters

Personal protective equipment	Use compressed air equipment when the chemical is involved in fire. In case of evacuation, an approved protection mask should be used. See also section 8.
Other Information	Containers close to fire should be removed immediately or cooled with water. Spill water from fire fighting may be strongly caustic.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures	Beware! The product is corrosive. Avoid inhalation of vapours and contact with skin and eyes. Use protective equipment as referred to in section 8. Ensure adequate ventilation.
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6.2. Environmental precautions

Environmental precautionary measures	Do not allow to enter into sewer, water system or soil.
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6.3. Methods and material for containment and cleaning up

Cleaning method	Absorb in vermiculite, dry sand or earth and place into containers. Collect in a suitable container and dispose as hazardous waste according to section 13. Containers with collected spillage must be properly labelled with correct contents and hazard symbol/Hazard pictograms. Flush area with plenty of water. Do not use solvents.
Clean up	Do not allow to enter into sewer, water system or soil. Neutralize spilled material with crushed limestone, sodium carbonate (soda ash) or lime.

6.4. Reference to other sections

Other instructions	See also sections 8 and 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling	Provide adequate ventilation. Use protective equipment as referred to in section 8. Avoid inhalation. Avoid contact with skin and eyes. Arrange working conditions to avoid direct contact. Never pour water into acid/base. Dilute by slowly pouring the product into water while stirring.
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Protective Safety Measures

Advice on general occupational hygiene	Wash hands at the end of each work shift and before eating, smoking and using the toilet. Do not eat, drink or smoke during work. Wash contaminated clothing before reuse.
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7.2. Conditions for safe storage, including any incompatibilities

Storage	Store in a tightly closed container in a dry place. Protect from sunlight. Store in a well-ventilated place. Store at room temperature.
Special risks and properties	The chemical is corrosive. Diluting or dissolving in water causes rapid heating.
Conditions to avoid	Do not store near heat sources or expose to high temperatures. Moisture.

Conditions for safe storage

Packaging compatibilities	PTFE, PE, PP, glass, stoneware / porcelain, carbon steel, steel with PTFE coating, cast iron.
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Advice on storage compatability	Keep away from: Water/moisture. Metals. Strong reducing agents. Organic material. Alkalies.
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7.3. Specific end use(s)

Specific use(s)	See section 1.2.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Substance	Identification	Value	TWA Year
Sulphuric acid ...%	CAS no.: 7664-93-9	TWA (8h): 0,05 mg/m ³	
Other Information about threshold limit values	References (laws/regulations): EH40/2005 Workplace exposure limits, with later amendments.		

8.2. Exposure controls

Limitation of exposure on workplace	Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. The personal protective equipment must be CE-marked and the latest version of the standards shall be used. The protective equipment and the specified standards recommended below are only suggestions, and should be selected on advice from the supplier of such equipment. A risk assessment of the work place/work activities (the actual risk) may lead to other control measures. The protection equipments suitability and durability will depend on application.
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Eye / face protection

Eye protection	Wear tight-fitting goggles or face shield.
Reference to relevant standard	EN 166 (Personal eye-protection. Specifications).

Hand protection

Hand protection	Use chemical resistant gloves. The gloves abilities may vary among the different glove manufacturers.
Suitable materials	Butyl. Viton rubber (fluor rubber).
Unsuitable materials	Rubber (natural, latex). Nitrile. Leather. Polychloroprene / chloroprene rubber.
Breakthrough time	Comments: Butyl: 2 hours. Viton rubber ≥ 8 hours.
Thickness of glove material	Comments: Butyl: 0.5 mm. Viton rubber: 0.4 mm.
Additional hand protection measures	Change gloves frequently.
Reference to relevant standard	BS-EN 374 (Protective gloves against chemicals and micro-organisms). BS-EN 420 (Protective gloves. General requirements and test methods).

Skin protection

Skin protection (except hands)	Wear appropriate clothing to prevent any possibility of skin contact.
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Respiratory protection

Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment with combination filter (type E2/P3).
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Reference to relevant standard	EN 14387 (Respiratory protective devices. Gas filter(s) and combined filter(s). Requirements, testing, marking). EN 143 (Respiratory protective devices. Particle filters. Requirements, testing, marking).
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Appropriate environmental exposure control

Environmental exposure controls	Do not allow to enter into sewer, water system or soil. See also section 12.
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Other Information

Other Information	Emergency shower and eyewash facilities should be available at the workplace
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Colour	Colourless.
Odour	Slightly pungent odour.
Odour limit	Comments: Not specified by the manufacturer.
pH	Status: In delivery state Value: < 0,3 Comments: 10% solution.
Freezing point	Comments: ca. -32 °C (93% 20 °C); ca. -11 °C (96% 20 °C); ca. 0 °C (98% 20 °C)
Boiling point / boiling range	Comments: 282 °C (93% 20 °C) 330 °C (96% 20 °C) 326 °C (98% 20 °C)
Flash point	Comments: Not specified by the manufacturer.
Evaporation rate	Comments: Not specified by the manufacturer.
Flammability (solid, gas)	Not relevant.
Explosion limit	Comments: Not relevant.
Vapour pressure	Value: 0,006 kPa Temperature: 20 °C
Vapour density	Comments: Not specified by the manufacturer.
Specific gravity	Comments: See density.
Density	Comments: 1,82 g/cm ³ (93% 20 °C); 1,84 g/cm ³ (96% 20 °C); 1,84 g/cm ³ (98% 20 °C)
Bulk density	Comments: Not specified by the manufacturer.
Solubility in water	Soluble.
Partition coefficient: n-octanol/water	Comments: Not specified by the manufacturer.
Spontaneous combustability	Comments: Not specified by the manufacturer.
Decomposition temperature	Value: ~ 800 °C
Viscosity	Value: 20 cP Comments: Dynamic. (93-98% 25 °C)
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

9.2. Other information

Physical hazards

Dissociation constant Value: 1,92

Other physical and chemical properties

Physical and chemical properties Molecular weight : 98,07 g/mol.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Reactive with the materials listed in Section 10.5.

10.2. Chemical stability

Stability Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Arise in contact with incompatible materials (see section 10.5) and/or under inappropriate conditions (see section 10.4). Dangerous polymerisation will not occur. Generates heat on contact with water. Contact with water liberates toxic gas.

10.4. Conditions to avoid

Conditions to avoid High temperature. Moisture.

10.5. Incompatible materials

Materials to avoid Water/moisture. Strong reducing agents. Organic material. Metals. Alkalies.

10.6. Hazardous decomposition products

Hazardous decomposition products None under normal conditions. See also section 5.2.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Type of toxicity: Acute Effect Tested: LD50 Route of exposure: Oral Value: = 2140 mg/kg Species: Rotte
	Type of toxicity: Acute Effect Tested: LC50 Route of exposure: Inhalation. Duration: 4 h Value: = 0,375 mg/l Species: Rotte
Other toxicological data	Additional test data is available from the supplier/manufacturer.

Other information regarding health hazards

Inhalation	Vapours are corrosive. May give a burning sensation to the nose and throat. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. High concentrations may cause severe lung damage
Skin contact	Burning pain and severe corrosive skin damage. Cause blisters and burns.
Eye contact	Causes severe burns and serious eye damage. Immediate first aid is imperative. Risk of permanent corneal damage, loss of sight and blindness.
Ingestion	May cause burns in mucous membranes, throat, oesophagus and stomach. Risk of perforation of the stomach if there has been swallowed large amounts.
Assessment of acute toxicity classification	Based on available data, the classification criteria are not met.
Assessment of skin corrosion / irritation, classification	Corrosive to skin.
Assessment eye damage or irritation, classification	Causes serious eye damage.
Sensitisation	Based on available data, the classification criteria are not met.
Mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
STOT-single exposure	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic, fish	Value: 500 mg/l Test duration: 96 h Species: Brachydanio rerio Method: LC50 (statisk)
Acute aquatic, Daphnia	Value: 29 mg/l Test duration: 24 h Species: Daphnia magna Method: EC50
Ecotoxicity	The chemical is not classified as harmful to the environment.
Aquatic, comments	Additional test data is available from the supplier/manufacturer.

12.2. Persistence and degradability

Persistence and degradability	The product is not biodegradable.
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12.3. Bioaccumulative potential

Bioaccumulative potential	The chemical is not expected to be bioaccumulative.
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12.4. Mobility in soil

Mobility	The product is water soluble and may spread in water systems.
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12.5. Results of PBT and vPvB assessment

PBT assessment results	The chemical contains no PBT-substances.
vPvB evaluation results	The chemical contains no vPvB substances.

12.6. Other adverse effects

Other adverse effects / Remarks	Do not allow to enter into sewer, water system or soil. Large spills can negatively impact the aquatic environment locally due to an decrease in the pH-value.
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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Specify the appropriate methods of disposal	Disposed of as hazardous waste by approved contractor. The waste code (EWC-Code) is intended as a guide. The code must be chosen by the user, if the use differs from the one mentioned below.
EWC waste code	EWC waste code: 06 01 01 sulphuric acid and sulphurous acid Classified as hazardous waste: Yes
EWL Packing	EWC waste code: 15 01 10 packaging containing residues of or contaminated by dangerous substances Classified as hazardous waste: Yes
Other Information	Do not empty into drains.

SECTION 14: Transport information

14.1. UN number

ADR / RID / ADN	1830
IMDG	1830
ICAO/IATA	1830

14.2. UN proper shipping name

Proper Shipping Name English ADR/RID/ADN	SULPHURIC ACID
ADR / RID / ADN	SULPHURIC ACID
IMDG	SULPHURIC ACID
ICAO/IATA	SULPHURIC ACID

14.3. Transport hazard class(es)

ADR / RID / ADN	8
Class Code ADR / RID / ADN	C1
IMDG	8
ICAO/IATA	8

14.4. Packing group

ADR / RID / ADN	II
IMDG	II

ICAO/IATA	II
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14.5. Environmental hazards

IMDG Marine pollutant	No
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14.6. Special precautions for user

Special safety precautions for user	Not relevant.
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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Product name	SULPHURIC ACID
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Additional information.

ADR / RID / ADN Hazard label	8
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IMDG Hazard label	8
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ICAO /IATA Hazard label	8
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ADR / RID - Other information

Tunnel restriction code	E
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Transport category	2
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Hazard no.	80
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IMDG / ICAO / IATA Other information

EmS	F-A, S-B
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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

References (laws/regulations)	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP-regulation) with later amendments. Regulation (EC) No 1907/2006 on the registration, evaluation, authorization and restriction of chemicals (REACH Regulation), with later amendments. The List of Wastes (England) (Amendment) Regulations 2005. (SI 2005 No. 895). Dangerous Goods regulations
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15.2. Chemical safety assessment

Chemical safety assessment performed	Yes
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SECTION 16: Other information

Supplier's notes	The information contained in this SDS must be made available to all those who handle the product.
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List of relevant H-phrases (Section 2 and 3).	H314 Causes severe skin burns and eye damage. H318 Causes Serious eye damage.
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Classification according to	Skin Corr 1A; H314
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Regulation (EC) No 1272/2008 [CLP / GHS]	Eye Dam. 1; H318
Additional information	The classification is based on information about the ingredients and with consideration to pH.
Key literature references and sources for data	Suppliers Safety data sheet dated: 01.06.2015
Abbreviations and acronyms used	ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road DNEL: Derived No Effect Level EC50: The effective concentration of substance that causes 50% of the maximum response EWC: European Waste Code (a code from the EU's common classification system for waste) IATA: The International Air Transport Association ICAO: The International Civil Aviation Organisation IMDG: The International Maritime Dangerous Goods Code LC50: Median concentration lethal to 50% of a test population. LD50: Lethal dose, is the amount of a substance given to a group of test animals, which causes the death of 50%. PBT: Persistent, Bioaccumulative and Toxic PNEC: Predicted No Effect Concentration RID: The Regulations concerning the International Carriage of Dangerous Goods by Rail vPvB: very Persistent and very Bioaccumulative
Information which has been added, deleted or revised	Sections being revised since previous version: 1-16
Checking quality of information	This SDS is quality controlled by Kiwa Teknologisk Institutt in Norway, certified according to the Quality Management System requirements specified in ISO 9001:2008.
Prepared by	Kiwa Teknologisk Institutt as, Norway by Johan K. Rian