



Chemifloc Ltd.

SAFETY DATA SHEET Sulphuric Acid 50%

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

Section 1: Identification of the substance and of the company/undertaking

Identification of the substance or mixture

Product Name: Sulphuric Acid 50%
Chemical Name: Sulphuric acid
Registration Number: 01-2119458838-20
Synonyms:
Date of first issue: 17 January 2011
Version number 04
Revision date: 24-03-2016
Supersedes date: 04-03-2016

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

Identified uses Use in the treatment of raw water in the supply of either potable water or industrial process water

Uses advised against None

Details of the supplier of the safety data sheet

Manufacturer: Chemifloc Ltd
Smithstown, Shannon,
Co. Clare,
Rep. of Ireland.
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e-mail: info@chemifloc.ie

**Emergency Telephone Number: National Poison Information Centre,
00353 1 8379964**

Section 2: Hazards Identification

Classification of the substance

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classificatory applies.

Classification according to Regulation (EC) no 1272/2008 as amended

Health hazards

Skin corrosion/irritation Category 1A H314 ó Causes severe skin burns and eye damage.

Hazard summary

Physical hazards Not classified for physical hazards.

Health hazards Causes severe burns. Occupational exposure to the substance or mixture may cause adverse health effects.

Environmental hazards Not classified for hazards to the environment.

Specific hazards Prolonged exposure may cause chronic effects.

Main symptoms Contact with this material will cause burns to the skin, eyes and mucous membranes. Inhalation of vapours in high concentration may cause shortness of breath (lung oedema).

Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Contains: Sulphuric Acid



Signal word	Danger
Hazard statements	H314 - Causes severe skin burns and eye damage.
Precautionary statements	
Prevention	P260 - Do not breathe mist or vapour. P280 - Wear eye/face protection
Response	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+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. P310 - Immediately call a POISON CENTER or doctor/physician. P363 - Wash contaminated clothing before reuse. P405 - Store locked up.
Storage	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.
Disposal	
Supplemental label information.	Not applicable
Other hazards	Not assigned.

Section 3: Composition/Information on Ingredients

Substance General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Sulphuric acid	50	7664-93-9 231-639-5	01-2119458838-20	-	#
Water	50	7732-18-5			

Classification: CLP: Skin Corr. 1A;H314
 #: This substance has workplace exposure limit(s).
 PBT: persistent, bioaccumulative and toxic substance.
 vPvB: very persistent and very bioaccumulative substance.
Composition comments The full text for all H-phrases is displayed in section 16.

Section 4: First Aid Measures

General information	In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of shortness of breath, give oxygen. Keep victim warm. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.
Description of first aid measures	
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately.
Skin contact	Get medical attention immediately. Wash clothing separately before reuse.
Eye contact	Important! Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If possible use lukewarm water. Consult a physician. Continue rinsing eyes during transport to hospital.

Ingestion	If material is ingested, immediately contact a physician or poison control centre. Have victim rinse mouth thoroughly with water. Do not induce vomiting without medical advice. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
Most important symptoms and effects, both acute and delayed	Corrosive effects, May cause irreversible eye damage.
Indication of any immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm.

Section 5: Firefighting measures

General fire hazards	Non-combustible, substance itself does not burn. Do not inhale combustion gases. Fire may result in decomposition and release of harmful vapours including sulphur oxides.
Extinguishing media	
Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing Media	None known.
Special hazards arising from the substance or mixture	The product itself does not burn. Reacts with many metals to produce flammable and explosive hydrogen gas. Do not inhale combustion gases. Fire may result in decomposition and release of harmful vapours including sulphur oxides
Advice for firefighters	
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective clothing.
Special firefighting procedures	No unusual fire or explosion hazards noted.

Section 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Stay upwind.
For emergency responders	Not available.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.
Methods and material for containment and cleaning up	Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas. Large Spills: Dike the spilled material, where this is possible. Soak up with inert absorbent material. Cover with plastic sheet to prevent spreading. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth and place into containers. Sweep up or gather material and place in appropriate container for disposal. Following product recovery, flush area with water. After removal flush contaminated area thoroughly with water. Clean up in accordance with all applicable regulations. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. This material and its container must be disposed of as hazardous waste. After removal flush contaminated area thoroughly with water. This material and its container must be disposed of as hazardous waste. For waste disposal, see Section 13.
Reference to other sections	Not available.

Section 7: Handling and storage

Precautions for safe handling	Avoid contact with eyes. Avoid prolonged exposure. Wash hands thoroughly after handling. Emergency eye wash fountains and emergency showers should be available in the immediate vicinity.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Keep only in the original container. Store in corrosive resistant/container with a resistant inner liner. Keep out of the reach of children. Tanks should be vented and fitted with an overflow pipe. Tanks should be banded to contain spillage. Avoid freezing. Keep away from incompatible materials. Store in a cool, dry, well-ventilated area away from sources of ignition.
Materials for packaging:	Suitable material: plastic (PE, PP, PVC), fiberglass-reinforced polyester, acid proof or rubber-coated steel.
Materials to avoid:	Bases, non-acid proof metals (for example aluminium, copper and iron), Avoid contact with unalloyed steel or galvanized surfaces.
Other data:	Stable under recommended storage conditions.
Specific end use(s)	The specified uses for this material are shown in section 1 of this document.

Section 8: Exposure controls / personal protection

Control parameters

Occupational exposure limits Ireland

Components	Type	Value	Form
Sulphuric acid (7664-93-9)	TWA	0.05 mg/m ³	Mist

Biological limit values
Recommended monitoring procedures

No biological exposure limits noted for the ingredient(s).
Nyrstar: Standard Sampling and Determination of Sulphuric Acid mist in workplace atmosphere. (Accredited method by Dutch Accreditation Council. RvA 2010, registration code L151. Report L150-C04. 1 September 2010.

DNEL

Components	Type	Route	Value	Form
Sulphuric acid (7664-93-9)	Industry	Air	0.05 mg/m ³	Long term respiratory
			0.1 mg/m ³	Acute local respiratory

PNEC

Components	Type	Route	Value	Form
Sulphuric acid (7664-93-9)	Not applicable	STP	8.8 mg/l	Fresh and marine
		Water	0.0025 mg/l	
		Sediment	0.002 mg/kg	

Exposure Controls

Appropriate engineering controls

Ventilation should be sufficient to effectively remove and prevent build-up of any dusts or fumes that may be generated during handling or thermal processing. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the TWA, suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment.

General information

Wear personal protective equipment. Eye wash fountain and emergency showers are recommended. Ensure that eyewash stations and safety showers are close to the workstation location. Use personal protective equipment as required.
Keep working clothes separately.
Wear eye/face protection. (EN166)

Eye/face protection

Skin protection

- Hand protection

- Other

PVC or other plastic material gloves. (EN374)

Wear suitable protective clothing. (EN13034)

Chemical resistant apron.

If splashes are likely to occur, wear: Rubber or plastic boots.

Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Not available

Section 9: Physical and chemical properties

Information on basic physical and chemical properties

General information (Appearance, odour)

Physical State	Aquous solution
Colour	Clear
Odour	Not significant

Important health safety and environmental information

pH	<1.0
Melting point/range	-33 °C
Boiling point / range	121°C
Flash point	not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted., inorganic compound
Flammibility (solid, gas)	does not sustain combustion.
Explosive properties	
- Lower explosive limit	not applicable
- Upper explosive limit	
Vapour Pressure	not applicable, In accordance with column 2 of REACH Annex VII, the study does not need to be conducted.
Density	1.4 g/ml for sulfuric acid concentration of mass fraction of 50 %
Viscosity	7 cP @ 20°C
Solubility(ies)	
- Water solubility	miscible
Partition coefficient (n-octanol/water)	not applicable, inorganic compound.
Thermal Decomposition	Not available

Other information

Section 10: Stability and reactivity

Reactivity	Corrodes base metals .
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	It produces hydrogen on contact with metals, e.g. steel, nickel and aluminium. It is a strong acid and reacts violently with alkalis.
Conditions to avoid	Reacts violently with strong alkaline substances. This product may react with reducing agents. Do not mix with other chemicals. Keep away from heat and sources of ignition. Avoid temperatures which may have a negative effect on the materials of construction used in equipment
Incompatible materials	Bases, non-acid proof metals (for example aluminium, copper and iron) Avoid contact with unalloyed steel or galvanized surfaces.
Hazardous decomposition products	
Thermal decomposition	Not available

Section 11: Toxicological information

General information	Not available
Information on likely routes of exposure	
Ingestion	Causes digestive tract burns
Inhalation	May cause irritation to respiratory system
Skin contact	Causes severe skin burns
Eye contact	Causes severe eye burns
Symptoms	See Section 2.

Information on toxicological effects

Acute toxicity Causes severe skin burns and eye damage.

Product

Sulphuric Acid 50% (Mixture)

Test results

Acute Inhalation LC50 Guinea pig: 0.036 mg/l estimated

Acute Inhalation LC50 Rat: 694 mg/l estimated

Acute Oral LD50 Rat: 4282 mg/kg estimated

Components

Sulphuric acid (7664-93-9)

Test results

Acute Inhalation LC50 Guinea pig: 0.018 mg/l 8.00 Hours

Acute Inhalation LC50 Rat: 347 mg/l 1.00 Hours

Acute Oral LD50 Rat: 2141 mg/kg

Acute Oral LD50 Rat: 2140 mg/kg

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/eye irritation	Causes severe eye burns.
Respiratory sensitisation	Not classified.
Skin sensitisation	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	Risk of cancer cannot be excluded with prolonged exposure. The International Agency for Research on Cancer (IARC) has concluded that occupational exposure to strong inorganic acid mists containing sulphuric acid is carcinogenic to man, causing cancer of the larynx. Although no direct link has been established between exposure to sulphuric acid itself and cancer in man, exposure to any mist or aerosol during the use of this product should be avoided.
Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
Mixture versus substance Information	Not known.
Other information	Not available.

Section 12: Ecological information

Toxicity

Product

Sulphuric Acid 50% (Mixture)

Test results

LC50 Fish: 84 mg/l 96.00 hours estimated

Components

Sulphuric acid (7664-93-9)

Test results

LC50 Western mosquito fish (Gambusia affinis): 42 mg/l 96.00hours

Remarks: * Estimates for product may be based on additional component data not shown.

Persistence and degradability

Biological degradability:

No data is available on the degradability of this product. The product solely consists of inorganic compounds which are not biodegradable. The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

Partition coefficient: n-octanol/water: not applicable, inorganic compound

Mobility in soil

Mobility water solubility ó soluble

Results of PBT and vPvB assessment Not available.

Other adverse effects

Because of the low pH of this product, it would be expected to produce significant ecotoxicity upon exposure to aquatic organisms and aquatic systems. Do not discharge into drains, water courses or onto the ground. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. May lower the pH of water and thus be harmful to aquatic organisms.

Section 13: Disposal considerations

Waste treatment methods

Product Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.
Thoroughly cleaned packaging material may be recycled.

Contaminated packaging Classified as hazardous waste. Must be disposed of in accordance with local and national regulations.

EU Waste Code 060101 ó Sulphuric acid and Sulphurous acid

Section 14: Transport information

ADR/RID:

UN Number: 2796
Proper Shipping Name: SULFURIC ACID with not more than 51% acid
Transport hazard class(es) 8
Subsidiary class(es) -
Packing group II
Environmental hazards No
Labels required 8
Special precautions for user Not available.

IATA

UN Number: 2796
UN Proper Shipping Name: SULFURIC ACID with not more than 51% acid
Transport hazard class(es) 8
Subsidiary class(es) 4.3
Packing group II
Environmental hazards No
Special precautions for user Not available.

IMDG

UN number 2796
UN proper shipping name SULFURIC ACID with not more than 51% acid
Transport hazard class(es) 8
Subsidiary class(es) 4.3
Packing group II
Marine pollutant No
EmS No. F-A, S-B
Special precautions for user Not available.



ADR



IATA



IMDG

Section 15: Regulatory information

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

EU Regulations

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 2037/2000 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 on persistent organic pollutants, Annex I

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V

Not listed.

Directive 96/61/EC concerning integrated pollution prevention and control (IPPC): Article 15, European Pollution Emission Registry (EPER)

Not listed

Regulation (EC) No. 1907/2006, Article 59(1). Candidate List

Not listed.

National regulations Not available.

Other regulations This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. No restrictions identified other than those already covered in regulations.

Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for the components of this mixture.

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

Section 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H314 Causes severe skin burns and eye damage.

Training advice Not available

Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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