

3.2 Mixture**Sulfuric acid**

Synonyms Dihydrogen sulfate, Dipping acid, Electrolyte acid, Matting acid, Sulphuric acid.

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
7664-93-9	231-639-5	016-020-00-8	H ₂ SO ₄	98.08 g/mol	0.1-5.0

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Concentration	Classification
Sulfuric acid		
CAS-No 7664-93-9 EC-No 231-639-5 EC-Index-No 016-020-00-8	0.1-5.0%	Corrosive to metals (Category 1), H290 Skin corrosion (Category 1A), H314

Hazardous ingredients according to Directive 1999/45/EC

Component	Concentration	Classification
Sulfuric acid		
CAS-No 7664-93-9 EC-No 231-639-5 EC-Index-No 016-020-00-8	0.1-5.0%	C, Corrosive, R35

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures**4.1 Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Obtain medical attention. Wash contaminated clothing before reuse.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	After swallowing: make victim drink water (two glasses at the most), avoid vomiting, risk of perforation. Immediately call in physician. Do not attempt to neutralize.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in section 2.2 and section 11

4.3 Indication of any immediate medical attention and special treatment needed

Not Available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

In adaption to materials stored in the immediate neighborhood.

5.2 Special hazards arising from the substance or mixture

Non-combustible. Development of hazardous combustion gases or vapors possible in the event of fire.
Hydrogen may form upon contact with metals (danger of explosion). The following may develop in event of fire:
Sulfur oxides.

5.3 Advice for firefighters

Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.

5.4 Further information

Contain escaping vapors with water. Prevent fire-fighting water from entering surface water or ground water.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

6.3 Methods and materials for containment and cleaning up

Spillage : soak up with inert absorbent material (e.g. sand, silica gel). Prevent liquid entering sewers, basements and workpits. Transfer to covered drums. Dispose of promptly.

6.4 Reference to other sections

For disposal see **Section 13**.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Provision of good ventilation in the working area. The floor must be acid resistant. Suitable materials: generally resistant: Glass, Enamel. At lower temperatures: Polyethylene PE, Polyvinyl chloride, Polypropylene PP. At different concentrations and range of temperatures the resistance of metals may vary greatly. Before choosing materials of construction obtain specialized information. Unsuitable materials: non-noble metals. Do not leave container open. Avoid any contact when handling the substance.

7.2 Conditions for safe storage, including any incompatibilities

Keep tightly closed at room temperature in a dry, cool and well-ventilated place. Keep out of direct sunlight and away from heat, water and incompatible materials. Requirements for containers, no metal containers.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****8.1 Control parameters****Derived No Effect Level (DNEL)**

Application Area	Health Effects	Exposure	Value
Worker	Acute Local effects	Inhalation	1 mg/m ³
Consumer	Long-term Local effects	Inhalation	0.05 mg/m ³

Predicted No Effect Concentration (PNEC)

Compartment	Value
Fresh water	0.0025 mg/l
Fresh water sediment	0.002 mg/kg
Marine water	0.00025 mg/l
Marine sediment	0.002 mg/kg
Sewage treatment plant	8.8 mg/l

8.2 Exposure controls**Appropriate engineering controls**

The product should only be used in ventilation hoods and fans.

Individual protection measures (Personal protective equipment, PPE)**Eye/face protection**

Goggles giving complete protection to eyes.

Skin protection

Chemical resistant apron / corrosive protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from viton material.
- Splash contact wears gloves from butyl rubber material.

The select protective gloves have to satisfy the specifications of EU Directive 89/686 EEC and standard EN 374 derived from it.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter P2 (EN 141 or EN 14387).

Environmental exposure controls

Prevent liquid entering sewers, basements and workpits.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Appearance: Form	Liquid
: Color	Colorless
Odour	Odorless
Odour Threshold	Not Available
pH	<1.3 at 20°C
Melting point/range	-4.5°C
Boiling point/range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	Not Available
upper	Not Available
Vapor Pressure	Not Available
Relative Vapor Density	Not Available
Density	1.00 - 1.03 g/ml at 20°C
Water solubility	Soluble at 20°C
Partition coefficient (n-octanol/water)	Not Available
Auto-Ignition temperature	Not Available
Decomposition Temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Explosive
Oxidizing properties	Not Available

SECTION 10: Stability and reactivity

10.1 Reactivity

Corrosive to various metals.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

The substance can react dangerously with: bases, water, various metals.

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

Alkali metals, alkali compounds, ammonia, alkaline earth metals, alkaline earth compounds, alkalis, acid, combustible substances, organic solvents, halogenates, permanganate.

Incompatible with various metals and metal alloys generates sulfur oxide and Hydrogen gas.

10.6 Hazardous decomposition products

Has a corrosive effect incompatible with metals, animals, vegetable tissues. Sulfur oxide, Hydrogen (Hazardous decomposition products from under contact with metals, danger of explosion).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Not Available

Acute oral toxicity

Not Available

Acute inhalation toxicity

Not Available

Skin corrosion/irritation

Not Available

Serious eye damage/eye irritation

Not Available

Respiratory or skin sensitization

Not Available

Germ cell mutagenicity

Not Available

Carcinogenicity

Not Available

Reproductive toxicity

Not Available

Teratogenicity

Not Available

Specific target organ toxicity (STOT) - single exposure

Not Available

Specific target organ toxicity (STOT) - repeated exposure

Not Available

Aspiration hazard

Not Available

Further information

Systemic effects: Irritations of the mucous membranes.

SECTION 12: Ecological information**Mixture****12.1 Toxicity**

Not Available

12.2 Persistence and degradability

Not Available

12.3 Bioaccumulative potential

Not Available

12.4 Mobility in soil

Not Available

12.5 Other adverse effects

Do not allow to enter waters, waste water or soil.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Product**

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

Contaminated packaging

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

SECTION 14: Transport information**Land Transport (ADR/RID)**

UN Number	3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID)
Transport hazard class(es)	8
Packaging group	III
Environmental hazards	No
Special precautions for user	Yes

Sea transport (IMDG)

UN Number	3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID)
Transport hazard class(es)	8
Packaging group	III
Marine pollutant	No
Special precautions for user	Yes
EmS	F-A S-B

Air transport (IATA)

UN Number	3264
UN proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULFURIC ACID)
Transport hazard class(es)	8
Packaging group	III
Environmental hazards	No
Special precautions for user	No

River transport (AND/ADNR)

(Not examined)

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information**Full text of H-Statements referred to under sections 2 and 3**

H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Full text of R-phrases referred to under sections 2 and 3

C	Corrosive.
R35	Causes severe burns.

Recommended restrictions

Take notice of labels and safety data sheets for the working.

Reference

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany, Source: IFA for Databases on hazardous substances (GESTIS).

Further information

Contact to RCI Labscan Limited.

Revision Date

01/10/2015

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 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.