

**SAFETY DATA SHEET**

according to Regulation (EC) No. 1907/2006

Revision Date 07.06.2018

Version 2.3

**SECTION 1. Identification of the substance/mixture and of the company/undertaking****1.1 Product identifier**

Catalogue No. 100732

Product name Sulfuric acid 95-97% for analysis (max. 0.005 ppm Hg) EMSURE®  
ACS,ISO,Reag. Ph Eur

REACH Registration Number A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. 7664-93-9

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

Identified uses Reagent for analysis, Chemical production  
Reagent for analysis, Chemical production  
For additional information on uses please refer to the Merck Chemicals portal ([www.merckgroup.com](http://www.merckgroup.com)).  
In compliance with the conditions described in the annex to this safety data sheet.

**1.3 Details of the supplier of the safety data sheet**

Responsible Department LS-QHC \* e-mail: [prodsafe@merckgroup.com](mailto:prodsafe@merckgroup.com)

Regional representation Merck Chemicals Ltd \* Boulevard Industrial Park \* Padge Road \*  
Beeston \* Nottingham \* NG9 2JR \* Tel. 01159 430840 \*  
[information@merckchem.co.uk](mailto:information@merckchem.co.uk).

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1.4 Emergency telephone number +49 (0) 6151 722440

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## SECTION 2. Hazards identification

### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals, Category 1, H290

Skin corrosion, Category 1A, H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*

Danger

*Hazard statements*

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

*Precautionary statements*

Prevention

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

Response

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

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

## Reduced labelling (≤125 ml)

*Hazard pictograms*



*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.

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

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

*Index-No.* 016-020-00-8

## 2.3 Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Chemical nature Sulfuric acid solution.

### 3.1 Substance

Formula  $\text{H}_2\text{SO}_4$   $\text{H}_2\text{O}_4\text{S}$  (Hill)

Index-No. 016-020-00-8

EC-No. 231-639-5

Molar mass 98.08 g/mol

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## Hazardous components (REGULATION (EC) No 1272/2008)

*Chemical name (Concentration)*

CAS-No.            Registration number    Classification

sulphuric acid ( $\geq 50\%$  -  $\leq 100\%$ )

*Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.*

7664-93-9	01-2119458838-20-XXXX	Corrosive to metals, Category 1, H290 Skin corrosion, Category 1A, H314
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For the full text of the H-Statements mentioned in this Section, see Section 16.

### 3.2 Mixture

Not applicable

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## SECTION 4. First aid measures

### 4.1 Description of first aid measures

*General advice*

First aider needs to protect himself.

After inhalation: fresh air. Call in physician.

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician immediately.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

Irritation and corrosion, Cough, Shortness of breath, Nausea, Vomiting, Diarrhoea, pain  
Risk of blindness!

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

No information available.

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## SECTION 5. Firefighting measures

### 5.1 Extinguishing media

#### *Suitable extinguishing media*

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapours.

Fire may cause evolution of:

Sulphur oxides

### 5.3 Advice for firefighters

#### *Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

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## 6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® H<sup>+</sup>, Merck Art. No. 101595). Dispose of properly. Clean up affected area.

## 6.4 Reference to other sections

Indications about waste treatment see section 13.

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## SECTION 7. Handling and storage

### 7.1 Precautions for safe handling

#### *Advice on safe handling*

Observe label precautions.

#### *Hygiene measures*

Change contaminated clothing and immerse in water. Preventive skin protection Wash hands and face after working with substance.

### 7.2 Conditions for safe storage, including any incompatibilities

#### *Requirements for storage areas and containers*

No metal containers.

#### *Storage conditions*

Tightly closed.

Recommended storage temperature see product label.

### 7.3 Specific end use(s)

See exposure scenario in the Annex to this MSDS.

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## SECTION 8. Exposure controls/personal protection

### 8.1 Control parameters

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Contains no substances with occupational exposure limit values.

## Derived No Effect Level (DNEL)

*sulphuric acid (7664-93-9)*

Worker DNEL, acute      Local effects      inhalation      0.1 mg/m<sup>3</sup>

Worker DNEL,      Local effects      inhalation      0.05 mg/m<sup>3</sup>  
longterm

## Predicted No Effect Concentration (PNEC)

*sulphuric acid (7664-93-9)*

PNEC Fresh water      0.0025 mg/l

PNEC Fresh water sediment      0.002 mg/kg

PNEC Marine water      0.00025 mg/l

PNEC Marine sediment      0.002 mg/kg

PNEC Sewage treatment plant      8.8 mg/l

## 8.2 Exposure controls

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

### Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

#### *Eye/face protection*

Tightly fitting safety goggles

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## *Hand protection*

full contact:

Glove material:	Viton (R)
Glove thickness:	0.7 mm
Break through time:	> 480 min

splash contact:

Glove material:	butyl-rubber
Glove thickness:	0.7 mm
Break through time:	> 120 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 890 Vitoject® (full contact), KCL 898 Butoject® (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

## *Other protective equipment*

Acid-resistant protective clothing

## *Respiratory protection*

required when vapours/aerosols are generated.

Recommended Filter type: Filter B-(P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

## **Environmental exposure controls**

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Colour	colourless
Odour	odourless
Odour Threshold	Not applicable
pH	0.3 at 49 g/l 25 °C
Melting point	-20 °C
Boiling point	No information available.
Flash point	Not applicable
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	Not applicable
Upper explosion limit	Not applicable
Vapour pressure	ca.0.0001 hPa at 20 °C

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Relative vapour density	ca.3.4
Density	1.84 g/cm <sup>3</sup> at 20 °C
Relative density	No information available.
Water solubility	at 20 °C soluble, (caution ! development of heat)
Partition coefficient: n- octanol/water	No information available.
Auto-ignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	ca.24 mPa.s at 20 °C
Explosive properties	Not classified as explosive.
Oxidizing properties	Oxidizing potential

## 9.2 Other data

Ignition temperature	Not applicable
Bulk density	Not applicable
Corrosion	May be corrosive to metals.

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## SECTION 10. Stability and reactivity

### 10.1 Reactivity

has a corrosive effect

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strong oxidising agent

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Alkali metals, alkali compounds, Ammonia, Aldehydes, acetonitrile, Alkaline earth metals, alkalines, Acids, alkaline earth compounds, Metals, metal alloys, Oxides of phosphorus, phosphorus, hydrides, halogen-halogen compounds, oxyhalogenic compounds, permanganates, nitrates, carbides, combustible substances, organic solvent, acetylidene, Nitriles, organic nitro compounds, anilines, Peroxides, picrates, nitrides, lithium silicide, iron(III) compounds, bromates, chlorates, Amines, perchlorates, hydrogen peroxide

## 10.4 Conditions to avoid

no information available

## 10.5 Incompatible materials

animal/vegetable tissues, Metals

Contact with metals liberates hydrogen gas.

## 10.6 Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### 11.1 Information on toxicological effects

#### *Acute oral toxicity*

This information is not available.

#### *Acute inhalation toxicity*

This information is not available.

#### *Acute dermal toxicity*

This information is not available.

#### *Skin irritation*

Causes severe burns.

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## *Eye irritation*

Causes serious eye damage. Risk of blindness!

## *Sensitisation*

This information is not available.

## *Germ cell mutagenicity*

This information is not available.

## *Carcinogenicity*

This information is not available.

## *Reproductive toxicity*

This information is not available.

## *Teratogenicity*

Did not show teratogenic effects in animal experiments. (IUCLID)

## *Specific target organ toxicity - single exposure*

This information is not available.

## *Specific target organ toxicity - repeated exposure*

This information is not available.

## *Aspiration hazard*

This information is not available.

## **11.2 Further information**

After inhalation of vapours/aerosols: damage to the affected mucous membranes. After skin contact: severe burns with formation of scabs. After eye contact: burns, corneal lesions. After swallowing: severe pain (risk of perforation!), nausea, vomiting, and diarrhoea. After a latency period of several weeks possibly pyloric stenosis.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

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## **SECTION 12. Ecological information**

### **12.1 Toxicity**

No information available.

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## 12.2 Persistence and degradability

No information available.

## 12.3 Bioaccumulative potential

No information available.

## 12.4 Mobility in soil

No information available.

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

## 12.6 Other adverse effects

*Additional ecological information*

Biological effects:

Forms corrosive mixtures with water even if diluted.

Harmful effect due to pH shift.

Endangers drinking-water supplies if allowed to enter soil or water.

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

### *Waste treatment methods*

Notice Directive on waste 2008/98/EC.

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14. Transport information

### Land transport (ADR/RID)

14.1 UN number	UN 1830
14.2 Proper shipping name	SULPHURIC ACID
14.3 Class	8
14.4 Packing group	II
14.5 Environmentally hazardous	--
14.6 Special precautions for user	yes
Tunnel restriction code	E

### Inland waterway transport (ADN)

Not relevant

### Air transport (IATA)

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14.1 UN number UN 1830  
14.2 Proper shipping name SULPHURIC ACID  
14.3 Class 8  
14.4 Packing group II  
14.5 Environmentally hazardous --  
14.6 Special precautions for user no

#### Sea transport (IMDG)

14.1 UN number UN 1830  
14.2 Proper shipping name SULPHURIC ACID  
14.3 Class 8  
14.4 Packing group II  
14.5 Environmentally hazardous --  
14.6 Special precautions for user yes

EmS F-A S-B

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
Not relevant

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## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard SEVESO III  
Legislation Not applicable  
Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

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Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of  $\geq 0.1$  % (w/w).

*National legislation*

Storage class 8B

## 15.2 Chemical safety assessment

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

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## SECTION 16. Other information

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

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.

### Training advice

Provide adequate information, instruction and training for operators.

### Labelling

*Hazard pictograms*



*Signal word*

Danger

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## *Hazard statements*

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

## *Precautionary statements*

### Prevention

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

### Response

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

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

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

## **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

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## EXPOSURE SCENARIO 1 (Industrial use)

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### 1. Industrial use Reagent for analysis, Chemical production)

#### Sectors of end-use

*SU 3* Industrial uses: Uses of substances as such or in preparations at industrial sites  
*SU 9* Manufacture of fine chemicals  
*SU 10* Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

#### Chemical product category

*PC19* Intermediate  
*PC21* Laboratory chemicals

#### Process categories

*PROC1* Use in closed process, no likelihood of exposure  
*PROC2* Use in closed, continuous process with occasional controlled exposure  
*PROC3* Use in closed batch process (synthesis or formulation)  
*PROC4* Use in batch and other process (synthesis) where opportunity for exposure arises  
*PROC5* Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)  
*PROC8a* Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities  
*PROC8b* Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities  
*PROC9* Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
*PROC10* Roller application or brushing  
*PROC15* Use as laboratory reagent

#### Environmental Release Categories

*ERC1* Manufacture of substances  
*ERC2* Formulation of preparations  
*ERC4* Industrial use of processing aids in processes and products, not becoming part of articles  
*ERC6a* Industrial use resulting in manufacture of another substance (use of intermediates)

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*ERC6b* Industrial use of reactive processing aids

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## 2. Contributing scenarios: Operational conditions and risk management measures

### 2.1 Contributing scenario controlling environmental exposure for: ERC1

#### Amount used

Daily amount per site	1500 t
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#### Environment factors not influenced by risk management

Dilution Factor (River)	10
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#### Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year	365
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#### Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
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Water	Solutions with low pH-value must be neutralized before discharge.
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#### Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
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Flow rate of sewage treatment plant effluent	2,000 m <sup>3</sup> /d
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Sludge Treatment	Sewage sludge should not be applied to natural soils.
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### 2.2 Contributing scenario controlling environmental exposure for: ERC2

#### Amount used

Annual amount per site	300000 t
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#### Environment factors not influenced by risk management

Dilution Factor (River)	10
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## Other given operational conditions affecting environmental exposure

Continuous use/release  
Number of emission days per year 365

## Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with low pH-value must be neutralized before discharge.

## Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.3 Contributing scenario controlling environmental exposure for: ERC4

### Amount used

Annual amount per site 438 t

### Environment factors not influenced by risk management

Dilution Factor (River) 10

## Other given operational conditions affecting environmental exposure

Continuous use/release  
Number of emission days per year 365

## Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with low pH-value must be neutralized before discharge.

## Conditions and measures related to municipal sewage treatment plant

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Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.4 Contributing scenario controlling environmental exposure for: ERC6a

### Amount used

Annual amount per site	300000 t
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### Environment factors not influenced by risk management

Dilution Factor (River)	10
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### Other given operational conditions affecting environmental exposure

Continuous use/release	
Number of emission days per year	365

### Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with low pH-value must be neutralized before discharge.

### Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.5 Contributing scenario controlling environmental exposure for: ERC6b

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## Amount used

Annual amount per site	100000 t
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## Environment factors not influenced by risk management

Dilution Factor (River)	10
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## Other given operational conditions affecting environmental exposure

Continuous use/release	
Number of emission days per year	365

## Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with low pH-value must be neutralized before discharge.

## Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.6 Contributing scenario controlling worker exposure for: PROC1

### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Low volatile liquid
Process Temperature	< 130 °C

### Frequency and duration of use

Frequency of use	8 hours/day
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## Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

## Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

## Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

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## 2.7 Contributing scenario controlling worker exposure for: PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC15

### Product characteristics

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.

Physical Form (at time of use) Low volatile liquid

Process Temperature < 130 °C

### Frequency and duration of use

Frequency of use 8 hours/day

## Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor with local exhaust ventilation (LEV)

## Organisational measures to prevent /limit releases, dispersion and exposure

Covers daily exposures up to 8 hours.

## Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

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## 3. Exposure estimation and reference to its source

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 100732  
Product name Sulfuric acid 95-97% for analysis (max. 0.005 ppm Hg) EMSURE®  
ACS,ISO,Reag. Ph Eur

## Environment

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC1		All compartments	< 1	EUSES
2.2	ERC2		All compartments	< 1	EUSES
2.3	ERC4		All compartments	< 1	EUSES
2.4	ERC6a		All compartments	< 1	EUSES
2.5	ERC6b		All compartments	< 1	EUSES

## Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.6	PROC1	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC2	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC3	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC4	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC5	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC8a	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC8b	acute, inhalative, local	0.20	ECETOC TRA
		longterm, inhalative, local	0.41	ECETOC TRA
2.7	PROC9	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC10	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA
2.7	PROC15	acute, inhalative, local	0.41	ECETOC TRA
		longterm, inhalative, local	0.82	ECETOC TRA

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).



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For (other) local effects risk management measures are based on qualitative risk characterisation.

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#### **4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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For scaling of worker exposure assessments performed with ECETOC TRA, please consult the Merck tool SciDeEx® at [www.merckmillipore.com/scideex](http://www.merckmillipore.com/scideex).

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## EXPOSURE SCENARIO 2 (Professional use)

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### 1. Professional use Reagent for analysis, Chemical production)

#### Sectors of end-use

*SU 22* Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Chemical product category

*PC21* Laboratory chemicals

#### Process categories

*PROC15* Use as laboratory reagent

#### Environmental Release Categories

*ERC2* Formulation of preparations

*ERC6a* Industrial use resulting in manufacture of another substance (use of intermediates)

*ERC6b* Industrial use of reactive processing aids

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### 2. Contributing scenarios: Operational conditions and risk management measures

#### 2.1 Contributing scenario controlling environmental exposure for: ERC2

#### Amount used

Annual amount per site 300000 t

#### Environment factors not influenced by risk management

Dilution Factor (River) 10

#### Other given operational conditions affecting environmental exposure

Continuous use/release

Number of emission days per year 365

#### Technical conditions and measures / Organizational measures

Air Use of air emission abatement equipments.

Water Solutions with low pH-value must be neutralized before discharge.

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## Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.2 Contributing scenario controlling environmental exposure for: ERC6a

### Amount used

Annual amount per site	300000 t
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### Environment factors not influenced by risk management

Dilution Factor (River)	10
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### Other given operational conditions affecting environmental exposure

Continuous use/release	
Number of emission days per year	365

### Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with low pH-value must be neutralized before discharge.

## Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.3 Contributing scenario controlling environmental exposure for: ERC6b

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No.	100732
Product name	Sulfuric acid 95-97% for analysis (max. 0.005 ppm Hg) EMSURE® ACS,ISO,Reag. Ph Eur

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## Amount used

Annual amount per site	100000 t
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## Environment factors not influenced by risk management

Dilution Factor (River)	10
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## Other given operational conditions affecting environmental exposure

Continuous use/release	
Number of emission days per year	365

## Technical conditions and measures / Organizational measures

Air	Use of air emission abatement equipments.
Water	Solutions with low pH-value must be neutralized before discharge.

## Conditions and measures related to municipal sewage treatment plant

Type of Sewage Treatment Plant	Municipal sewage treatment plant
Flow rate of sewage treatment plant effluent	2,000 m3/d
Sludge Treatment	Sewage sludge should not be applied to natural soils.

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## 2.4 Contributing scenario controlling worker exposure for: PROC15

### Product characteristics

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Low volatile liquid
Process Temperature	< 130 °C

### Frequency and duration of use

Frequency of use	< 4 hours/day
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according to Regulation (EC) No. 1907/2006

Catalogue No. 100732  
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## Other operational conditions affecting workers exposure

Outdoor / Indoor Indoor with local exhaust ventilation (LEV)

## Organisational measures to prevent /limit releases, dispersion and exposure

Avoid carrying out operation for more than 4 hours.

## Conditions and measures related to personal protection, hygiene and health evaluation

Wear suitable gloves tested to EN374.

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## 3. Exposure estimation and reference to its source

### Environment

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1	ERC2		All compartments	< 1	EUSES
2.2	ERC6a		All compartments	< 1	EUSES
2.3	ERC6b		All compartments	< 1	EUSES

### Workers

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.4	PROC15	acute, inhalative, local	0.82	ECETOC TRA
		longterm, inhalative, local	0.98	ECETOC TRA

For (other) local effects risk management measures are based on qualitative risk characterisation.

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## 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users;

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# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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