

**SAFETY DATA SHEET**

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 04/17/2015

Version 1.4

**SECTION 1. Identification****Product identifier**

Product number	109073
Product name	Sulfuric acid c(H <sub>2</sub> SO <sub>4</sub> )=0,25MOL/L (0.5N) c(H <sub>2</sub> SO <sub>4</sub> ) = 0.25 mol/l (0.5 N) Titripur®

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

Identified uses	Reagent for analysis
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**Details of the supplier of the safety data sheet**

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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**SECTION 2. Hazards identification****GHS Classification**

Corrosive to Metals, Category 1, H290

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

**GHS-Labeling***Hazard pictograms**Signal Word*

Warning

*Hazard Statements*

H290 May be corrosive to metals.

*Precautionary Statements*

P234 Keep only in original container.

P390 Absorb spillage to prevent material damage.

P406 Store in corrosive resistant stainless steel container with a resistant inner liner.

**Other hazards**

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None known.

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## SECTION 3. Composition/information on ingredients

Chemical nature

Aqueous sulfuric acid solution.

### Hazardous ingredients

*Chemical Name (Concentration)*

CAS-No.

*sulphuric acid ( $\geq 1\%$  -  $< 5\%$ )*

7664-93-9

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

*Inhalation*

After inhalation: fresh air.

*Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

*Eye contact*

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

*Ingestion*

After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Never give anything by mouth to an unconscious person.

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

irritant effects

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

No information available.

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## SECTION 5. Fire-fighting measures

### 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.

### Special hazards arising from the substance or mixture

Not combustible.

Ambient fire may liberate hazardous vapors.

### Advice for firefighters

*Special protective equipment for fire-fighters*

In the event of fire, wear self-contained breathing apparatus.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

No special precautionary measures necessary.

### Methods and materials for containment and cleaning up

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® H<sup>+</sup>, Art. No. 101595).

Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

### Conditions for safe storage, including any incompatibilities

Tightly closed.

Store at +15°C to +25°C (+59°F to +77°F).

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>sulphuric acid 7664-93-9</i>			
ACGIH	Time Weighted Average (TWA):	0.2 mg/m <sup>3</sup>	Form of exposure: Thoracic fraction.
NIOSH/GUIDE	Recommended exposure limit (REL):	1 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	1 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	1 mg/m <sup>3</sup>	

### Engineering measures

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

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Change contaminated clothing. Application of skin- protective barrier cream recommended.

Wash hands after working with substance.

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## *Eye/face protection*

Safety glasses

## *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

## *Other protective equipment:*

protective clothing

## *Respiratory protection*

required when vapors/aerosols are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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## **SECTION 9. Physical and chemical properties**

Physical state	liquid
Color	colorless
Odor	odorless
Odor Threshold	Not applicable
pH	ca. 1.0 at 68 °F (20 °C)
Melting point	No information available.
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Density	ca. 1.02 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.

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Water solubility	at 68 °F (20 °C) soluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Corrosion	May be corrosive to metals.

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## SECTION 10. Stability and reactivity

### Reactivity

See below

### Chemical stability

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

### Possibility of hazardous reactions

Violent reactions possible with:

The generally known reaction partners of water.

Gives off hydrogen by reaction with metals.

### Conditions to avoid

no information available

### Incompatible materials

animal/vegetable tissues

Metals

Gives off hydrogen by reaction with metals.

### Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

*Likely route of exposure*

Eye contact, Skin contact

*Target Organs*

Eyes

Skin

Respiratory system

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teeth

Mucous membranes

*Skin irritation*

Possible damages: slight irritation

*Eye irritation*

Possible damages: slight irritation

*Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

*Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## Carcinogenicity

IARC

Group 1: Carcinogenic to humans

sulphuric acid

7664-93-9

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

Known carcinogen.

sulphuric acid

7664-93-9

ACGIH

A2: Suspected human carcinogen

sulphuric acid

7664-93-9

## Further information

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

## Ingredients

*sulphuric acid*

*Germ cell mutagenicity*

*Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

(HSDB)

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## SECTION 12. Ecological information

### Ecotoxicity

No information available.

### Persistence and degradability

No information available.

### Bioaccumulative potential

No information available.

### Mobility in soil

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No information available.

### *Additional ecological information*

No ecological problems are to be expected when the product is handled and used with due care and attention.

### **Ingredients**

#### *sulphuric acid*

*Toxicity to daphnia and other aquatic invertebrates*

static test EC50 Daphnia magna (Water flea): > 100 mg/l; 48 h

OECD Test Guideline 202

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

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### **SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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### **SECTION 14. Transport information**

#### **Land transport (DOT)**

UN number	UN 3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID)
Class	8
Packing group	III
Environmentally hazardous	--

#### **Air transport (IATA)**

UN number	UN 3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID SOLUTION)
Class	8
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

#### **Sea transport (IMDG)**

UN number	UN 3264
Proper shipping name	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID SOLUTION)
Class	8
Packing group	III

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**Environmentally hazardous** --  
**Special precautions for user** yes  
EmS F-A S-B

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**SECTION 15. Regulatory information**

**United States of America**

**SARA 313**

The following components are subject to reporting levels established by SARA Title III, Section 313:

*Ingredients*

sulphuric acid 7664-93-9 2.4 %

**SARA 302**

The following components are subject to reporting levels established by SARA Title III, Section 302:

*Ingredients*

sulphuric acid 7664-93-9

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

*Ingredients*

sulphuric acid

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

*Ingredients*

sulphuric acid

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

**DEA List I**

Not listed

**DEA List II**

Listed

*Ingredients*

sulphuric acid 7664-93-9

**US State Regulations**

**Massachusetts Right To Know**

*Ingredients*

sulphuric acid

**Pennsylvania Right To Know**

*Ingredients*

sulphuric acid

**New Jersey Right To Know**

*Ingredients*

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sulphuric acid

## California Prop 65 Components

WARNING: this product contains a chemical known in the State of California to cause cancer.

### Ingredients

sulphuric acid

## Notification status

TSCA:

All components of the product are listed in the TSCA-inventory.

DSL:

All components of this product are on the Canadian DSL.

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Labeling

#### Hazard pictograms



#### Signal Word

Warning

#### Hazard Statements

H290 May be corrosive to metals.

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

H290

May be corrosive to metals.

### 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).

Revision Date 04/17/2015

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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