



**SULPHURIC ACID 0.5M (1N)  
STANDARDIZED SOLUTION**

**MATERIAL SAFETY DATA SHEET  
SDS/MSDS**

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

**1.1 Product identifiers**

Product name : Sulphuric Acid 0.5M (1N) Standardized Solution

Product Code : 895140

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

Identified uses : Laboratory chemicals, Industrial & for professional use only.

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

Company : Central Drug House (P) Ltd  
7/28 Vardaan House  
New Delhi -110002  
INDIA

Telephone : +91 11 49404040

Email : [care@cdhfinechemical.com](mailto:care@cdhfinechemical.com)

**1.4 Emergency telephone number**

Emergency Phone # : +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

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 according Regulation (EC) No 1272/2008**

Pictogram



Signal word

Danger

Hazard statement(s)

H290

May be corrosive to metals.

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P280

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

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing.

|                                |  |
|--------------------------------|--|
| P304 + P340 + P310             | Rinse skin with water/shower.<br>IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| P305 + P351 + P338             | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                     |
| Supplemental Hazard Statements | none   |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |   |                                |
|------------------|---|--------------------------------|
| Formula          | : | H <sub>2</sub> SO <sub>4</sub> |
| Molecular weight | : | 98.08 g/mol                    |

| Hazardous ingredients according to Regulation (EC) No 1272/2008 |                       |  | Concentration  |
|---|-----------------------|--|----------------|
| Component   |                       | Classification   |                |
| <b>Sulphuric acid</b>   |                       |  |                |
| CAS-No.   | 7664-93-9             | Met. Corr. 1; Skin Corr. 1A;   | >= 1 - < 5 %   |
| EC-No.  | 231-639-5             | H290, H314   |                |
| Index-No.   | 016-020-00-8          | Concentration limits:  |                |
| Registration number   | 01-2119458838-20-XXXX | >= 15 %: Skin Corr. 1A,<br>H314; 5 - < 15 %: Skin Irrit. 2,<br>H315; 5 - < 15 %: Eye Irrit. 2,<br>H319; >= 1 %: Met. Corr. 1,<br>H290; |                |
| <b>Water</b>  |                       |  |                |
| CAS-No.   | 7732-18-5             |  | >= 75 - < 99 % |
| EC-No.  | 231-791-2             |  |                |

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

Sulphur oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No data available

## SECTION 6: Accidental release measures

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

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

Evacuate personnel to safe areas.

For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.

For precautions see section 2.2.

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

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

### 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

#### Derived No Effect Level (DNEL)

| Application Area | Exposure routes | Health effect           | Value                  |
|------------------|-----------------|-------------------------|------------------------|
| Workers          | Inhalation      | Acute local effects     | 0.1 mg/m <sup>3</sup>  |
| Workers          | Inhalation      | Long-term local effects | 0.05 mg/m <sup>3</sup> |

#### Predicted No Effect Concentration (PNEC)

| Compartment                   | Value        |
|-------------------------------|--------------|
| Marine water                  | 0.00025 mg/l |
| Fresh water                   | 0.0025 mg/l  |
| Marine sediment               | 0.002 mg/kg  |
| Fresh water sediment          | 0.002 mg/kg  |
| Onsite sewage treatment plant | 8.8 mg/l     |

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

### Personal protective equipment

#### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Control of environmental exposure

Do not let product enter drains.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| a) Appearance                                   | Form: clear, liquid<br>Colour: Colourless |
| b) Odour  | No data available                         |
| c) Odour Threshold                              | No data available                         |
| d) pH   | No data available                         |
| e) Melting point/freezing point                 | No data available                         |
| f) Initial boiling point and boiling range      | No data available                         |
| g) Flash point                                  | Not applicable                            |
| h) Evaporation rate                             | No data available                         |
| i) Flammability (solid, gas)                    | No data available                         |
| j) Upper/lower flammability or explosive limits | No data available                         |
| k) Vapour pressure                              | No data available                         |
| l) Vapour density                               | No data available                         |
| m) Relative density                             | No data available                         |
| n) Water solubility                             | soluble                                   |
| o) Partition coefficient: n-octanol/water       | No data available                         |

- |                              |                   |
|------------------------------|-------------------|
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity                 | No data available |
| s) Explosive properties      | No data available |
| t) Oxidizing properties      | No data available |

## 9.2 Other safety information

No data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Bases, Halides, Organic materials, Carbides, fulminates, Nitrates, picrates, Cyanides, Chlorates, alkali halides, Zinc salts, permanganates, e.g. potassium permanganate, Hydrogen peroxide, Azides, Perchlorates., Nitromethane, phosphorous, Reacts violently with: cyclopentadiene, cyclopentanone oxime, nitroaryl amines, hexalithium disilicide, phosphorous(III) oxide, Powdered metals

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Sulphur oxides

Other decomposition products - No data available

In the event of fire: see section 5

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 2.140 mg/kg

LC50 Inhalation - Rat - 2 h - 510 mg/m<sup>3</sup>

#### Skin corrosion/irritation

Skin - Rabbit

Result: Extremely corrosive and destructive to tissue.

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Corrosive to eyes

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

The International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong-inorganic-acid mists containing sulfuric acid is carcinogenic to humans (group 1).

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: WS5600000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Pulmonary edema. Effects may be delayed., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

Toxicity to fish LC50 - Gambusia affinis (Mosquito fish) - 42 mg/l - 96 h(Sulfuric acid)

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 29 mg/l - 24 h(Sulfuric acid)

**12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available(Sulfuric acid)

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

No data available

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

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: Transport information****14.1 UN number**

ADR/RID: 3264

IMDG: 3264

IATA: 3264

**14.2 UN proper shipping name**

ADR/RID: SULPHURIC ACID

IMDG: SULPHURIC ACID

IATA: Sulphuric acid

|  |                           |  |           |
|--|---------------------------|--|-----------|
| <b>14.3 Transport hazard class(es)</b>   |                           |  |           |
| ADR/RID: 8                               | IMDG: 8                   |  | IATA: 8   |
| <b>14.4 Packaging group</b>              |                           |  |           |
| ADR/RID: III                             | IMDG: III                 |  | IATA: III |
| <b>14.5 Environmental hazards</b>        |                           |  |           |
| ADR/RID: no                              | IMDG Marine pollutant: no |  | IATA: no  |
| <b>14.6 Special precautions for user</b> |                           |  |           |
| No data available                        |                           |  |           |

## SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

### 15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

## 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. |
| H315 | Causes skin irritation.                  |
| H318 | Causes serious eye irritation.           |

### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.cdhfinechemical.com](http://www.cdhfinechemical.com) for additional terms and conditions of sale.