

## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY / UNDERTAKING

**Product name:** SULPHURIC ACID 15% - 50%  
**Synonyms, Trade Names:** Concentrated sulfuric acid, Oil of vitriol, Sulphuric acid, Battery acid  
**REACH Registration number:** 01-2119458838-20  
**CAS number:** 7664-93-9  
**EINECS number:** 231-639-5

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

**Identified uses:** Treatment of drinking water, has received approval by the European Committee for Standardisation.  
Manufacture of substances.

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## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture:

#### Classification (EC 1272/2008):

Physical and Chemical Hazards	Not classified.
Human health	Skin Corr. 1A - H314
Environment	Not classified.

**Classification (1999/45/EEC):** C;R35.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**Human health:** The IARC has issued the following statement (Monograph 100F): "There is sufficient evidence in humans for the carcinogenicity of mists from strong inorganic acids. Mists from strong inorganic acids cause cancer of the larynx. There is limited evidence for a causal association of mists from strong inorganic acids with cancer of the lung. Mists from strong inorganic acids are carcinogenic to humans (Group 1)."

## SAFETY DATA SHEET

Sulphuric Acid 15-50%

Issued: 09/10/2017

Page 2

### Label elements:

**EC No.:** 231-639-5

**Contains:** Sulfuric acid

**Label In Accordance With (EC) No. 1272/2008:**



**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.  
P303+361+353 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.  
P501 Dispose of contents/container in accordance with national regulations.

**Supplementary Precautionary Statements:** P260 Do not breathe vapour/spray.

P264 Wash contaminated skin thoroughly after handling.

P301+330+331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P304+340 IF INHALED: Remove victim 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.

**Other hazards:**

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous ingredients:** SULPHURIC ACID 15-50%

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

**REACH Registration number:** 01-2119458838-20

**CAS-No.:** 7664-93-9

**EC No.:** 231-639-5

### 4. FIRST AID MEASURES (SYMPTOMS)

#### Description of first aid measures:

**General information:** Speed is essential! Get medical attention immediately!

**Inhalation:** Remove victim immediately from source of exposure. Give oxygen if necessary. Apply artificial respiration if breathing has ceased or is failing. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance.

[cont...]

## SAFETY DATA SHEET

Sulphuric Acid 15-50%

Issued: 09/10/2017

Page 3

**Ingestion:** If confined to the mouth, rinse mouth thoroughly and ensure water is not swallowed. If swallowed, drink plenty of water. If substance has been swallowed, give water to drink immediately. Do not induce vomiting.

**Skin contact:** Remove contaminated clothes and rinse skin thoroughly with water.

**Eye contact:** Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart.

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

**Inhalation:** Mist/droplets are irritating to the respiratory tract, and will cause a burning sensation in the throat, coughing, and breathing difficulties. Pulmonary oedema (excessive liquid in the lungs) can occur after inhalation of higher amounts. Long-term exposure may cause cancer of the larynx. Long-term, low-level exposure may cause erosion and discolouration of teeth.

**Skin contact:** Causes severe burns; may lead to permanent scarring.

**Eye contact:** Risk of severe damage to eyes. Burns can occur. May cause long-term damage and even loss of sight.

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

After treatment keep patient under observation for 48 hours, as delayed pulmonary oedema may develop.

## 5. FIRE-FIGHTING MEASURES

**Extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials. Use water to cool containers.

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

**Unusual Fire & Explosion Hazards:** Oxidising agent. Fire causes formation of toxic gases.

### Advice for fire-fighters:

**Protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Wear protective clothing as described in Section 8 of this safety data sheet.

**Environmental precautions:** Do not discharge onto the ground or into water courses. Avoid discharge into drains. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

### Methods and material for containment and cleaning up:

**Small Spillages:** Absorb spillage with non-combustible, absorbent material. Do not use sawdust or other combustible material. Flush with plenty of water to clean spillage area.

**Large Spillages:** Neutralise with slaked lime (calcium hydroxide) or soda ash (sodium carbonate) and flush with plenty of water. Transfer to a container for disposal. Extensive fumes may be released.

**Reference to other sections:**

[cont...]

## SAFETY DATA SHEET

Sulphuric Acid 15-50%

Issued: 09/10/2017

Page 4

### 7. HANDLING AND STORAGE

**Precautions for safe handling:** Wear appropriate protective clothing. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Avoid contact with skin and eyes. Never add water to sulfuric acid. Dilute by slowly adding acid to water, with stirring. Keep away from metals, organics, nitrates, chlorates, carbides and hot surfaces, as corrosive and toxic decomposition products can be formed.

**Conditions for safe storage, including any incompatibilities:**

Store in a cool and well-ventilated place. Store in vessels of mild steel. Note that dilution below 70% will allow sulfuric acid to attack steel.

**Store away from:** Alkalis. Caustic products. Strong oxidising agents.

**Specific end use(s):**

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters:**

Name	STD	TWA - 8 Hrs	STEL - 15 Min	Notes
Sulfuric acid		0.05 mg/m <sup>3</sup>		

**Exposure controls:**

**Protective equipment:**



**Engineering measures:** Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

**Respiratory equipment:** Wear suitable respiratory protection.

**Hand protection:** Use protective gloves. Rubber or plastic.

**Eye protection:** Goggles/face shield are recommended.

**Other Protection:** Chemical suit and boots if handling large quantities.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties:**

**Appearance:** Clear liquid.

**Colour:** Colourless.

**Odour:** Odourless.

**Solubility:** Soluble in water.

**Initial boiling point and boiling range:** 323

For 98% concentration.

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## SAFETY DATA SHEET

Sulphuric Acid 15-50%

Issued: 09/10/2017

Page 5

**Melting point: (°C):** -1  
For 98% concentration.

**Relative density:** 1840 20  
For 98% concentration.

**pH-Value, Conc. Solution:** <0.1

**Other information:**

### 10. STABILITY AND REACTIVITY

**Reactivity:**

**Chemical stability:** Stable under normal temperature conditions and recommended use.

**Possibility of hazardous reactions:** Hazardous Polymerisation  
Not relevant

**Conditions to avoid:** Avoid exposure to high temperatures or direct sunlight. Store in a well-ventilated area. Store in vessels suitable for substances of low pH.  
Avoid contact with: Strong alkalis. Strong oxidising agents.

**Incompatible materials:**

**Materials to Avoid:** Strong alkalis. Metals. Organics. Reacts violently with water; ensure acid is always added to water, never the reverse. Avoid contact with sulphides, selenides or arsenic compounds to prevent formation of the toxic gases hydrogen sulphide, hydrogen selenide, or arsenous hydride.

**Hazardous decomposition products:** High temperatures generate: Sulphurous gases (SO<sub>x</sub>).

### 11. TOXICOLOGICAL INFORMATION

**Information on toxicological effects:**

**Acute toxicity:** Acute Toxicity (Oral LD<sub>50</sub>)  
2140 mg/kg Rat  
Acute Toxicity (Inhalation LC<sub>50</sub>)  
320 mg/l (vapours) Mouse

**Inhalation:** Pulmonary oedema (excessive liquid in lungs) can occur after inhalation of higher amounts. Mist/droplets are corrosive to the respiratory tract, and will cause a burning sensation in the throat, coughing and breathing difficulties. Long-term exposure may cause cancer of the larynx.

**Skin contact:** Causes severe burns. May lead to permanent scarring.

**Eye contact:** Risk of serious damage to eyes. Causes burns. Contact with concentrated chemical may very rapidly cause severe eye damage, possibly loss of sight.

[cont...]

## SAFETY DATA SHEET

Sulphuric Acid 15-50%

Issued: 09/10/2017

Page 6

### 12. ECOLOGICAL INFORMATION

**Toxicity:**

**Acute Toxicity – Fish:** 48 hours 49 mg/l *Lepomis macrochirus* (Bluegill)

**Persistence and degradability:** Remains indefinitely in environment as sulphate.

**Bioaccumulative potential:**

**Mobility in soil:**

**Results of PBT and vPvB assessment:**

**Other adverse effects:** Release into drains will contribute to the acidification of effluent treatment systems, and injure sewage treatment organisms.

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods:** Neutralise with alkaline material, put in sealed container and dispose in secured landfill. Do not dispose directly into rivers or drains.

### 14. TRANSPORT INFORMATION

**UN number:**

**UN No. (ADR/RID/ADN):** 2796

**UN No. (IMDG):** 2796

**UN No. (ICAO):** 2796

**UN proper shipping name:**

**Proper Shipping Name:** SULPHURIC ACID

**Transport hazard class(es):**

**ADR/RID/ADN Class:** Class 8: Corrosive substances.

**Transport Labels:**



**Packing group:**

**ADR/RID/ADN Packing group:** II

**IMDG Packing group:** II

**ICAO Packing group:** II

[cont...]

## SAFETY DATA SHEET

Sulphuric Acid 15-50%

Issued: 09/10/2017

Page 7

### Environmental hazards:

Environmentally Hazardous Substance/Marine Pollutant: No.

### Special precautions for user:

Hazard No. (ADR): 80 Corrosive or slightly corrosive substance.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

## 15. REGULATORY INFORMATION

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

National Regulations: Workplace Exposure Limits 2005 (EH40)

Chemical Safety Assessment: A chemical safety assessment has been carried out.

**Note:** The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

## 16. OTHER INFORMATION

Revision Comments: This is the first issue using the SDS Pro software package.

Risk Phrases in Full: R35 Causes severe burns.

Hazard Statements in Full: H314 Causes severe skin burns and eye damage.

**Legal disclaimer:** The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.