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MSDS No: M00471

# SAFETY DATA SHEET

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

**Product Name:** Sulfuric Acid Solution 19,2 N  
**Catalog Number:** 203832

HACH LANGE GmbH  
Willstätterstrasse 11  
40549 Düsseldorf, Germany  
+49 -(0)211 -52880

Emergency Telephone Numbers:  
(Poison Information Center Main)  
(+49 (0) 6131 19240) 24 HR

**SDS Number:** M00471  
**Chemical Name:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Use of the substance/preparation:** Standard solution  
**CAS No.:** Not applicable  
**Hazard:** Causes burns. Harmful if inhaled. Carcinogen.  
**Date of MSDS Preparation:**  
**Day:** 12  
**Month:** 01  
**Year:** 2006

**Additional Emergency Response Numbers:** Austria: +49 (0)6131 19240, Belgium: +32 -(0)70 -245245, France: +33 (0)1 -40370404, Italy: +39 -026101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -(0)1 -2515151

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Demineralized Water

**EEC Number:** 2317912  
**CAS No.:** 7732185  
**Percent Range:** 40,0 - 50,0  
**Percent Range Units:** weight / weight  
**Ingredient EEC Symbol:** Not applicable  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable  
**TLV:** Not established  
**PEL:** Not established  
**EU Occupational Exposure Limits:** Not established

### Sulfuric Acid

**EEC Number:** 2316395  
**CAS No.:** 76649  
**Percent Range:** 50,0 - 60,0  
**Percent Range Units:** weight / weight  
**Ingredient EEC Symbol:** C - CORROSIVE  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 35  
**TLV:** 1 mg/m<sup>3</sup> (TWA); 3 mg/m<sup>3</sup> (STEL)  
**PEL:** 1 mg/ m<sup>3</sup>  
**EU Occupational Exposure Limits:** 0,1 mg/m<sup>3</sup>

## 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Clear, colorless liquid  
**Odor:** Acidic  
**EU Symbols:** C - CORROSIVE  
**R PHRASES:** R 35: Causes severe burns.

**Protective Equipment:**

**Potential Health Effects:**

**Eye Contact (EC):** Causes severe burns  
**Skin Contact (EC):** Causes severe burns  
**Skin Absorption (EC):** None Reported  
**Target Organs (SA E):** None Reported  
**Ingestion (EC):** Causes: severe burns May cause: nausea Very large doses may cause: ulceration of the digestive tract  
**Target Organs (Ing E):** None Reported  
**Inhalation:** Causes: severe burns May cause: teeth erosion mouth soreness difficult breathing  
**Target Organs (Inh E):** Lungs  
**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions Respiratory conditions  
**Chronic Effects:** Chronic overexposure may cause chronic irritation or inflammation of the lungs erosion of the teeth cancer  
**Cancer / Reproductive Toxicity Information:**  
An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen  
Sulfuric Acid - The IARC evaluation was based on exposure to the mist or vapor of concentrated sulfuric acid generated during chemical processes.  
**Additional Cancer / Reproductive Toxicity Information:** None reported  
**Toxicologically Synergistic Products:** None reported

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#### 4. FIRST AID MEASURES

**Eye Contact:** Immediately flush eyes with water for 15 minutes. Call physician.  
**Skin Contact (First Aid):** Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.  
**Ingestion (First Aid):** Do not induce vomiting. Give 1 -2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.  
**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

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#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Not Flammable, but reacts with most metals to form flammable hydrogen gas. During a fire, corrosive and toxic gases may be generated by thermal decomposition.  
**Hazardous Combustion Products:** May emit toxic and corrosive fumes.  
**Fire / Explosion Hazards:** May react violently with: strong acids strong bases alkali metals metal nitrates oxidizers reducers  
**Static Discharge:** None reported.  
**Mechanical Impact:** None reported  
**Extinguishing Media:** Dry chemical. Do NOT use water.  
**Extinguishing Media NOT To Be Used:** Not applicable Do NOT use water.  
**Fire Fighting Instruction:** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

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#### 6. ACCIDENTAL RELEASE MEASURES

**Spill Response Notice:**

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.  
**Containment Technique:** Absorb spilled liquid with non-reactive sorbent material. Stop spilled material from being released to the environment.  
**Clean-up Technique:** Cover spilled material with an alkali, such as soda ash or sodium bicarbonate. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Decontaminate the area of the spill with a soap solution.  
**Evacuation Procedure:** Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when any quantity is spilled. If conditions warrant, increase the size of the evacuation.

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## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes skin clothing Do not breathe mist or vapors. Wash thoroughly after handling. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product.

**Storage:** Store away from: alkalies oxidizers reducers metals Keep container tightly closed when not in use.

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Standard solution

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Have a safety shower nearby. Use a fume hood to avoid exposure to dust, mist or vapor. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

**Eye Protection:** safety glasses with top and side shields

**Skin / Hand Protection:** disposable latex gloves lab coat

**Inhalation Protection:** laboratory fume hood

**Precautionary Measures:** Avoid contact with: eyes skin clothing Do not breathe: mist/vapor Wash thoroughly after handling. Use with adequate ventilation. Protect from: heat

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** For Sulfuric acid: 0,1 mg/m<sup>3</sup>

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Odor:** Acidic

**pH:** < 0,5

**Vapor Pressure:** Not determined

**Vapor Density (air = 1) :** Not determined

**Boiling Point:** Not determined

**Melting Point:** Not determined

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Specific Gravity (water = 1):** 1,535

**Evaporation Rate (water = 1):** Not determined

**Volatile Organic Compounds Content:** Not applicable

**Partition Coefficient (n -octanol / water):** Not applicable

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** 0,70 in/yr

**Aluminum:** 0,50 in/yr

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.

**Conditions to Avoid:** Evaporation Extreme temperatures Heating to decomposition.

**Reactivity / Incompatibility:** May react violently in contact with: alkalies oxidizers reducers Incompatible with: metals

**Hazardous Decomposition:** Contact with metals may release flammable hydrogen gas. Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

### *Product Toxicological Data:*

*LD50:* None reported

*LC50:* None reported

*Dermal Toxicity Data:* None reported

*Skin and Eye Irritation Data:* None reported

*Mutation Data:* None reported

*Reproductive Effects Data:* None reported

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*Ingredient Toxicological Data:* Sulfuric Acid: Oral rat LD50 = 2140 mg/kg; Inhalation rat LC50 = 87 ppm/4h, Inhalation Guinea Pig LC50 = 18 mg/m<sup>3</sup>

An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen  
Sulfuric Acid - The IARC evaluation was based on exposure to the mist or vapor of concentrated sulfuric acid generated during chemical processes.

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## 12. ECOLOGICAL INFORMATION

### *Product Ecological Information:* --

No ecological data available for this product.

*Ingredient Ecological Information:* Sulfuric Acid: The 48 -hour TLm in flounder is 100 -300 ppm.

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## 13. DISPOSAL CONSIDERATIONS

**NOTICE (Disposal):** These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country -specific regulations or must be passed to a packaging return system.

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## 14. TRANSPORT INFORMATION

### *I.C.A.O.:*

*I.C.A.O. Proper Shipping Name:* Sulphuric Acid Solution

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*ICAO Hazard Class:* 8

*ICAO Subsidiary Risk:* NA

*ICAO UN/ID Number:* UN1830

*ICAO Packing Group:* II

### *I.M.O.:*

*I.M.O. Proper Shipping Name:* Sulphuric Acid Solution

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*I.M.O. Hazard Class:* 8

*I.M.O. Subsidiary Risk:* NA

*I.M.O. UN Number:* UN1830

*I.M.O. Packing Group:* II

### *A.D.R.:*

*A.D.R. Proper Shipping Name:* Sulphuric Acid Solution

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*A.D.R. Hazard Class:* 8

*A.D.R. Subsidiary Risk:* NA

*A.D.R. UN -Number::* 1830

*A.D.R. Packing Group:* II

**Additional Information:** This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

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## 15. REGULATORY INFORMATION

**National Inventories:**

**EEC Inventory Status:** All ingredients used to make this product are listed on EINECS / ELNCS.

**EEC Number:** Not applicable

**EEC LABEL COPY:**

**EU Symbols:** C - CORROSIVE

**R PHRASES:** R 35: Causes severe burns.

**S PHRASES:** S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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**16. OTHER INFORMATION**

**References:** TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332 -2983. In -housnformation. Technical Judgment. Sax, N. Irving and Richard J. Lewis, Sr., revised by. Hawley's Condensed Chemical Dictionary, Eleventh Ed. New York: Van Nostrand Reinhold Co., 1987. NIOSH/OSHA Occupational Health Guidelines for Chemical Hazards. Cincinnati: Department of Health and Human Services, 1981. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1 -42) Supplement 7. France: 1987. NIOSH Registry of Toxic Effects of Chemical Substances, 1985 -86. Cincinnati: U.S. Department of Health and Human Services, April, 1987.

**R PHRASES:** R 35: Causes severe burns.

**Use of the substance/preparation:** Standard solution

**Revision Summary:** Updates in Section(s) 14,

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**Legend:**

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

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