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MSDS No: M00213

# SAFETY DATA SHEET

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

**Product Name:** Sulfide 1 Reagent  
**Catalog Number:** 181632

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**SDS Number:** M00213  
**Chemical Name:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Use of the substance/preparation:** Determination of sulfides  
**CAS No.:** Not applicable  
**Hazard:** Harmful if inhaled. Causes severe burns. Carcinogen.  
**Safety Data Sheet written according to Regulation (EU) No. 1907/2006 (REACH):**  
**Date of MSDS Preparation:**  
**Day:** 01  
**Month:** October  
**Year:** 2010

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## 2. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Clear, colorless

**Odor:** None

**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 vomiting death circulatory disturbances rapid pulse and respirations diarrhea

**Target Organs (Ing E):** None Reported

**Inhalation:** Harmful Causes: severe burns May cause: teeth erosion mouth soreness difficult breathing

**Target Organs (Inh E):** Lungs

**Medical Conditions Aggravated:** Pre-existing: Eye conditions Respiratory conditions

**Chronic Effects:** Chronic overexposure may cause erosion of the teeth chronic irritation or inflammation of the lungs 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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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### Demineralized Water

**EEC Number:** 2317912

**CAS No.:** 7732-18-5

**Percent Range:** 35,0 - 45,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Not applicable

**Ingredient R phrase(s):** Not applicable

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

#### Other component

**EEC Number:** Not applicable

**CAS No.:** Not applicable

**Percent Range:** 0,1 - 1,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Not applicable

**Ingredient R phrase(s):** Not applicable

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

#### Sulfuric Acid

**EEC Number:** 2316395

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

**Percent Range:** 55,0 - 65,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** C - CORROSIVE

**Ingredient R phrase(s):** R 35: Causes severe burns.

**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>

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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:** This material will not burn. May emit acrid smoke and fumes.

**Fire / Explosion Hazards:** Contact with metals gives off hydrogen gas which is flammable. May react violently with strong bases water

**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. Dike large spills to keep spilled material from entering sewage and drainage systems or bodies of water.

**Clean-up Technique:** Remove all combustible materials from the spill area. Absorb spilled liquid with non-reactive sorbent material. Work in an approved fume hood. Working in small batches, dilute with excess water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Filter to remove solids. Flush reacted material to the drain with a large excess of water. 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 between 10° and 25°C. Keep container tightly closed when not in use. Keep away from: alkalies oxidizers reducers metals

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Determination of sulfides

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Have a safety shower nearby. Use general ventilation to minimize exposure to mist, vapor or dust. 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:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes skin clothing. Do not breathe: mist/vapor. Wash thoroughly after handling. Use with adequate ventilation. Keep away from: alkalies metals oxidizers reducers

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless

**Physical State:** Liquid

**Odor:** None

**pH:** < 0,5

**Vapor Pressure:** Not determined

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

**Boiling Point:** ~ 100 °C; ~ 212 °F

**Melting Point:** Not applicable  
**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/ Relative Density (water = 1; air =1):** 1,500  
**Evaporation Rate (water = 1):** Not determined  
**Volatile Organic Compounds Content:** Not determined  
**Partition Coefficient (n-octanol / water):** Not determined  
**Solubility:**  
**Water:** Miscible  
**Acid:** Miscible  
**Other:** Not determined  
**Metal Corrosivity:**  
**Steel:** 0,048 in/yr  
**Aluminum:** Not determined

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Exposure to light. Extreme temperatures Heating to decomposition.  
**Reactivity / Incompatibility:** May react violently in contact with: acetic acid alkalies chlorosulfonic acid oxidizers reducers  
**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 = 347 ppm/1 hour  
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

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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

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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

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

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

**A.D.R. UN-Number::** UN1830

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

**Additional Information:** There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a set or kit, the classification given above applies. If the item IS part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

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## 15. REGULATORY INFORMATION

**National Inventories:**

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

**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).

**Ingredients:** Sulfuric Acid;

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## 16. OTHER INFORMATION

**References:** Technical Judgment. In-house information. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Fire Protection Guide on Hazardous Materials, 10th Ed. Quincy, MA: National Fire Protection Association, 1991. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1-42) Supplement 7. France: 1987.

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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.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE.  
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