

World Headquarters
Hach Company
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MSDS No: M00187

SAFETY DATA SHEET

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

Product Name: Molybdate 3 Reagent for Silica
Catalog Number: 199526

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: M00187

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Silica determination

CAS No.: Not applicable

Hazard: Causes eye burns. Harmful if inhaled. Contains a recognized 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 -0266101029, 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: 60,0 - 70,0

Percent Range Units: volume / volume

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

Molybdic Acid

EEC Number: 2319705

CAS No.: 7782944

Percent Range: 5,0 - 15,0

Percent Range Units: weight / volume

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable

TLV: 10 mg/m³ as Mo

PEL: 10 mg/m³ as Mo

EU Occupational Exposure Limits: 5 mg/m³ as Mo

Sodium Bisulfate

EEC Number: 2316657

CAS No.: 10034-88-5

Percent Range: 10,0 - 20,0

Percent Range Units: weight / volume

Ingredient EEC Symbol: Xi - IRRITATING
Ingredient R phrase(s) (R phrase details given in Heading 16): R 41
TLV: Not established
PEL: Not established
EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

Sulfuric Acid

EEC Number: 2316395
CAS No.: 76649
Percent Range: 5,0 - 15,0
Percent Range Units: volume / volume
Ingredient EEC Symbol: Xi - IRRITATING
Ingredient R phrase(s) (R phrase details given in Heading 16): R 37 R 41
TLV: 1 mg/m³ (TWA); 3 mg/m³ (STEL)
PEL: 1 mg/m³
EU Occupational Exposure Limits: 0,1 mg/m³

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Clear, colorless to light yellow liquid
Odor: Not determined
EU Symbols: Xi - IRRITATING
R PHRASES: R 37: Irritating to respiratory system. R 41: Risk of serious damage to eyes.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes burns
Skin Contact (EC): May cause irritation
Skin Absorption (EC): None Reported
Target Organs (SA E): None Reported
Ingestion (EC): May cause: burns of the mouth and esophagus nausea vomiting diarrhea circulatory disturbances rapid pulse and respirations loss of appetite anemia liver damage Molybdenum compounds may cause loss of coordination, enzyme activity effects, copper deficiency and gout.
Target Organs (Ing E): Liver
Inhalation: May cause: irritation of nose and throat difficult breathing teeth erosion mouth soreness anemia liver damage
Target Organs (Inh E): Liver Teeth
Medical Conditions Aggravated: Pre-existing: Eye conditions Skin conditions Respiratory conditions Liver conditions Gout
Chronic Effects: Molybdenum poisoning signs include loss of appetite, listlessness and reduced growth rate. Excessive exposure to molybdenum compounds may cause gout and anemia. Chronic overexposure may cause enzyme activity effects copper deficiency 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

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. Call physician if irritation develops.
Ingestion (First Aid): Do not induce vomiting. Give 1 -2 glasses of water. Never give anything by mouth to an unconscious person. Call physician immediately.
Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, corrosive and toxic gases may be generated by thermal decomposition.
Hazardous Combustion Products: None reported
Fire / Explosion Hazards: None reported
Static Discharge: None reported.
Mechanical Impact: None reported
Extinguishing Media: Water. Dry chemical. Carbon dioxide
Extinguishing Media NOT To Be Used: Not applicable Not applicable Not applicable
Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.

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: 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. 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.

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 away from: oxidizers reducers alkalies

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Silica determination

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: chemical splash goggles

Skin / Hand Protection: lab coat disposable latex gloves

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: oxidizers reducers alkalies

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: Not established

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Clear, colorless to light yellow liquid

Physical State: Liquid

Odor: Not determined

pH: < 0,5

Vapor Pressure: Not determined

Vapor Density (air = 1): Not determined

Boiling Point: ~ 100 °C

Melting Point: Not applicable

Flash Point: > 212 °F; > 100 °C

Method: Closed cup

Autoignition Temperature: Not applicable

Flammability Limits:

Lower Explosion Limits: Not applicable

Upper Explosion Limits: Not applicable

Specific Gravity (water = 1): 1,2 - 1,3

Evaporation Rate (water = 1): Not determined

Volatile Organic Compounds Content: Not applicable

Partition Coefficient (n -octanol / water): Not determined

Solubility:

Water: Soluble

Acid: Soluble

Other: Not determined

Metal Corrosivity:

Steel: 5,97 in/yr (151,6 mm/yr)

Aluminum: Not determined

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Extreme temperatures Heating to decomposition.

Reactivity / Incompatibility: Incompatible with: reducers oxidizers strong bases

Hazardous Decomposition: Heating to decomposition releases toxic and/or corrosive fumes of: sulfur oxides

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: None reported

LC50: None reported

Dermal Toxicity Data: None reported

Skin and Eye Irritation Data: Skin rabbit: 30-min: Very slight erythema, no edema @ 1 hr; 1 hr: Erythema and edema, absent - very slight @ 1 hr, clear by 24 hr; 4 hr: Erythema, absent to very slight @ 1hr, clear by 24 hr, edema absent.

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.
Sodium Bisulfate: Oral rat LD₅₀ = 2828 mg/ kg; Oral rat LD₅₀ = 1600 mg/kg.

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.

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.

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.

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S.
(Sulphuric Acid/Sodium Bisulphate Solution)

ICAO Hazard Class: 8
ICAO Subsidiary Risk: NA
ICAO UN/ID Number: UN3264
ICAO Packing Group: III

I.M.O.:

I.M.O. Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S.
(Sulphuric Acid/Sodium Bisulphate Solution)
I.M.O. Hazard Class: 8
I.M.O. Subsidiary Risk: NA
I.M.O. UN Number: UN3264
I.M.O. Packing Group: III

A.D.R.:

A.D.R. Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S.
(Sulphuric Acid/Sodium Bisulphate Solution)
A.D.R Hazard Class: 8
A.D.R. Subsidiary Risk: NA
A.D.R. UN -Number: 3264
A.D.R. Packing Group: III

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

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: Xi - IRRITATING

R PHRASES: R 37: Irritating to respiratory system. R 41: Risk of serious damage to eyes.

S PHRASES: S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S 39: Wear eye / face protection.

16. OTHER INFORMATION

References: CCINFO MSDS/FTSS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. In-house information. Technical Judgment. 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.

R PHRASES: R 37: Irritating to respiratory system. R 41: Risk of serious damage to eyes.

Use of the substance/preparation: Silica determination

Revision Summary: Updates in Section(s) 14,

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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