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MSDS No: M00187

## SAFETY DATA SHEET

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

**Product Name:** Molybdate 3 Reagent for Silica  
**Catalog Number:** 199549

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:** 06

**Month:** July

**Year:** 2007

**Additional Emergency Response Numbers:** Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245, France: +33-(0)1-40370404, Italy: +39-02-66101029, Netherlands: +31-(0)30-2748888, Switzerland: +41-(0)1-2515151

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### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### Demineralized Water

**EEC Number:** 2317912

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

**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.:** 7782-91-4

**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/m<sup>3</sup> as Mo

**PEL:** 10 mg/m<sup>3</sup> as Mo

*EU Occupational Exposure Limits:* 5 mg/m<sup>3</sup> 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/m<sup>3</sup>, Inhalable dust

**Sulfuric Acid**

*EEC Number:* 2316395

*CAS No.:* 7664-93-9

*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/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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### 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

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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. 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.

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#### 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.

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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:** 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.

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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 away from: oxidizers reducers alkalies

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Silica determination

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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:** 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

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## 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

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## 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.

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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:** Skin rabbit: 3-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 LD<sub>50</sub> = 2140 mg/kg; Inhalation rat LC<sub>50</sub> = 347 ppm/ 1 hour. Sodium Bisulfate: Oral rat LD<sub>50</sub> = 2828 mg/kg; Oral rat LD<sub>50</sub> = 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.

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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:** 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

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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:** 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.

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## 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,

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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. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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(970) 669-3050

MSDS No: M00341

## SAFETY DATA SHEET

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

**Product Name:** Citric Acid F Reagent  
**Catalog Number:** 2254249

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:** M00341

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Silica test color stabilization and phosphate removal

**CAS No.:** Not applicable

**Hazard:** Causes moderate eye irritation.

**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

#### Propionic acid

**EEC Number:** 2011763

**CAS No.:** 79094

**Percent Range:** < 1,0

**Percent Range Units:** volume / volume

**Ingredient EEC Symbol:** Not applicable

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

**TLV:** 10 ppm

**PEL:** 10 ppm

**EU Occupational Exposure Limits:** 10 ppm (31 mg/m<sup>3</sup>); STEL 20 ppm (62 mg/m<sup>3</sup>)

#### Demineralized Water

**EEC Number:** 2317912

**CAS No.:** 7732185

**Percent Range:** 75,0 - 85,0

**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

#### Citric Acid

**EEC Number:** 2010691

**CAS No.:** 77929

**Percent Range:** 15,0 - 25,0  
**Percent Range Units:** weight / volume  
**Ingredient EEC Symbol:** Not applicable  
**Ingredient R phrase(s) (R phrase details given in Heading 16):** Not applicable  
**TLV:** Not established  
**PEL:** Not established  
**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

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### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Clear, colorless  
**Odor:** None  
**EU Symbols:** Not applicable  
**R PHRASES:** Not applicable

**Protective Equipment:**

**Potential Health Effects:**

**Eye Contact (EC):** May cause irritation  
**Skin Contact (EC):** May cause irritation  
**Skin Absorption (EC):** No effects anticipated  
**Target Organs (SA E):** Not applicable  
**Ingestion (EC):** None reported  
**Target Organs (Ing E):** None Reported  
**Inhalation:** No effects anticipated  
**Target Organs (Inh E):** Not applicable  
**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions  
**Chronic Effects:** Citric acid chronic overexposure may cause effects due to the ability of citric acid to chelate metals, which could impair the body's ability to absorb calcium and iron.  
**Cancer / Reproductive Toxicity Information:**  
This product does NOT contain any IARC listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** Not applicable  
**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. Call physician if irritation develops.  
**Ingestion (First Aid):** Give large quantities of water. Call physician immediately.  
**Inhalation:** Remove to fresh air.

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### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material will not burn.  
**Hazardous Combustion Products:** This material will not burn.  
**Fire / Explosion Hazards:** May react violently with: metal nitrates  
**Static Discharge:** None reported.  
**Mechanical Impact:** None reported  
**Extinguishing Media:** Use media appropriate to surrounding fire conditions  
**Extinguishing Media NOT To Be Used:** Not applicable  
**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:** 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. 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 as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

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## 7. HANDLING AND STORAGE

**Handling:** Avoid contact with eyes skin Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Keep container tightly closed when not in use.

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Silica test color stabilization and phosphate removal

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. Maintain general industrial hygiene practices when using this product.

**Personal Protective Equipment:**

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

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

**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes skin Wash thoroughly after handling.

**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:** 1,0

**Vapor Pressure:** Not determined

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

**Boiling Point:** > 100°C (> 212°F)

**Melting Point:** < 0°C (< 32°F)

**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):** 1,07

**Evaporation Rate (water = 1):** 0,93

**Volatile Organic Compounds Content:** Not applicable

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

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** 0,324 in/yr

**Aluminum:** 0,005 in/yr

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## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Extreme temperatures  
**Reactivity / Incompatibility:** May react violently in contact with: metal nitrates  
**Hazardous Decomposition:** Toxic fumes of: carbon dioxide carbon monoxide  
**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:** Citric Acid: Oral rat LD50 = 6730 mg/kg; Propionic Acid: Oral rat LD50 = 2600 mg/kg

This product does NOT contain any IARC listed chemicals.

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --

No ecological data available for this product.

**Ingredient Ecological Information:** --

No ecological data available for the ingredients of this product.

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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:** Corrosive Liquid, Acidic, Organic, N.O.S.  
(Citric Acid Solution)  
**ICAO Hazard Class:** 8  
**ICAO Subsidiary Risk:** NA  
**ICAO UN/ID Number:** UN3265  
**ICAO Packing Group:** III

**I.M.O.:**

**I.M.O. Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S.  
(Citric Acid Solution)  
**I.M.O. Hazard Class:** 8  
**I.M.O. Subsidiary Risk:** NA  
**I.M.O. UN Number:** UN3265  
**I.M.O. Packing Group:** III

**A.D.R.:**

**A.D.R. Proper Shipping Name:** Corrosive Liquid, Acidic, Organic, N.O.S.  
(Citric Acid Solution)  
**A.D.R Hazard Class:** 8  
**A.D.R. Subsidiary Risk:** NA  
**A.D.R. UN-Number::** 3265  
**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

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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:** Not applicable

**R PHRASES:** Not applicable

**S PHRASES:** Not applicable

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## 16. OTHER INFORMATION

**References:** 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 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 Association, 1991. In-house information.

**R PHRASES:** Not applicable

**Use of the substance/preparation:** Silica test color stabilization and phosphate removal

**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.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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(970) 669-3050

MSDS No: M00512

## SAFETY DATA SHEET

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

**Product Name:** Amino Acid F Dilution Solvent  
**Catalog Number:** 2353011

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:** M00512

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Diluent for Amino Acid F Powder

**CAS No.:** Not applicable

**Hazard:** Causes eye burns. May cause irritation.

**Date of MSDS Preparation:**

**Day:** 06

**Month:** July

**Year:** 2007

**Additional Emergency Response Numbers:** Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245,  
France: +33-(0)1-40370404, Italy: +39-02-66101029, Netherlands: +31-(0)30-2748888, Switzerland: +41-  
(0)1-2515151

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### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### Demineralized Water

**EEC Number:** 2317912

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

**Percent Range:** 85,0 - 95,0

**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

#### Aminomethylpropanol

**EEC Number:** 2047098

**CAS No.:** 124-68-5

**Percent Range:** 5,0 - 10,0

**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

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### 3. HAZARDS IDENTIFICATION

***Emergency Overview:***

***Appearance:*** Clear, colorless liquid

***Odor:*** None

***EU Symbols:*** Not applicable

***R PHRASES:*** Not applicable

***Protective Equipment:***

***Potential Health Effects:***

***Eye Contact (EC):*** May cause irritation

***Skin Contact (EC):*** May cause irritation

***Skin Absorption (EC):*** Will be absorbed through the skin.

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

***Ingestion (EC):*** May cause: abdominal pain

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

***Inhalation:*** May cause: irritation of nose and throat

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

***Medical Conditions Aggravated:*** None reported

***Chronic Effects:*** None reported

***Cancer / Reproductive Toxicity Information:***

This product does NOT contain any IARC listed chemicals.

***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 for 15 minutes. Call physician if irritation develops.

***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.

---

### 5. FIRE FIGHTING MEASURES

***Flammable Properties:*** Combustion generates toxic fumes.

***Hazardous Combustion Products:*** Toxic fumes of: nitrogen oxides. carbon monoxide, carbon dioxide.

***Fire / Explosion Hazards:*** May react violently with: strong acids

***Static Discharge:*** None reported.

***Mechanical Impact:*** None reported

***Extinguishing Media:*** Alcohol foam. Dry chemical.

***Extinguishing Media NOT To Be Used:*** Not applicable Not applicable

***Fire Fighting Instruction:*** As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

---

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

**Clean-up Technique:** Cover spilled material with a dry acid, such as citric or boric. Scoop up slurry into a large beaker. Dilute with a large excess of water. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a weak acid 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 Do not breathe mist or vapors. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

**Storage:** Keep container tightly closed when not in use.

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Diluent for Amino Acid F Powder

---

## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station nearby. 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.

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Odor:** None

**pH:** 12,0

**Vapor Pressure:** Not determined

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

**Boiling Point:** 99°C (210°F)

**Melting Point:** -2°C (28,4°F)

**Flash Point:** >93°C (>200°F)

**Method:** Closed cup

**Autoignition Temperature:** Not determined

**Flammability Limits:**

**Lower Explosion Limits:** Not determined

**Upper Explosion Limits:** Not determined

**Specific Gravity (water = 1):** 0,9977

**Evaporation Rate (water = 1):** 0,60

**Volatile Organic Compounds Content:** Not determined

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

**Solubility:**

**Water:** Soluble

**Acid:** Soluble  
**Other:** Not determined  
**Metal Corrosivity:**  
**Steel:** 0,000 in/yr  
**Aluminum:** 0,031 in/yr

---

## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Contact with heat, sparks, open flames or other ignition sources.  
**Reactivity / Incompatibility:** Incompatible with: oxidizers  
**Hazardous Decomposition:** Toxic fumes of: nitrogen oxides carbon monoxide carbon dioxide  
**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:** Aminomethylpropanol: Skin at 1 hour exposure: erythema score of 1 @ 1hour, edema score of 0,67 @ 1hour - MILD; Skin at 4 hours exposure: erythema score of 1,33 @ 1 hour, edema score of 1,67 @ 1 hour - MILD  
**Mutation Data:** None reported  
**Reproductive Effects Data:** None reported  
--  
**Ingredient Toxicological Data:** Aminomethylpropanol: Oral rat LD50 = 2900 mg/kg

This product does NOT contain any IARC listed chemicals.

---

## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --  
No ecological data available for this product.  
**Ingredient Ecological Information:** --  
No ecological data available for the ingredients of this product.

---

## 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:** Not Currently Regulated  
--  
**ICAO Hazard Class:** NA  
**ICAO Subsidiary Risk:** NA  
**ICAO UN/ID Number:** NA

**ICAO Packing Group:** NA  
**I.M.O.:**  
**I.M.O. Proper Shipping Name:** Not Currently Regulated  
--  
**I.M.O. Hazard Class:** NA  
**I.M.O. Subsidiary Risk:** NA  
**I.M.O. UN Number:** NA  
**I.M.O. Packing Group:** NA

**A.D.R.:**  
**A.D.R. Proper Shipping Name:** Not Currently Regulated  
--  
**A.D.R Hazard Class:** NA  
**A.D.R. Subsidiary Risk:** NA  
**A.D.R. UN-Number::** NA  
**A.D.R. Packing Group:** NA

**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:** Not applicable

**R PHRASES:** Not applicable

**S PHRASES:** Not applicable

---

## 16. OTHER INFORMATION

**References:** 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 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. In-house information. Technical Judgment. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992.

**R PHRASES:** Not applicable

**Use of the substance/preparation:** Diluent for Amino Acid F Powder

**Revision Summary:** Updates in Section(s) 1,

---

**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. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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MSDS No: M00605

## SAFETY DATA SHEET

---

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

**Product Name:** Amino Acid F Reagent Powder for Analyzers  
**Catalog Number:** 2651155

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:** M00605

**Chemical Name:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Use of the substance/preparation:** Indicator for silica

**CAS No.:** Not applicable

**Hazard:** Allergen May cause irritation.

**Date of MSDS Preparation:**

**Day:** 06

**Month:** July

**Year:** 2007

**Additional Emergency Response Numbers:** Austria: +49 (0)6131 19240, Belgium: +32-(0)70-245245, France: +33-(0)1-40370404, Italy: +39-02-66101029, Netherlands: +31-(0)30-2748888, Switzerland: +41-(0)1-2515151

---

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

#### Fast Amino Acid (Trade Secret)

**EEC Number:** Confidential

**CAS No.:** Confidential

**Percent Range:** 5,0 - 10,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Not applicable

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

**TLV:** Handle as a nuisance dust.

**PEL:** Handle as a nuisance dust.

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

#### Sodium Metabisulfite

**EEC Number:** 2316730

**CAS No.:** 7681-57-4

**Percent Range:** 90,0 - 100,0

**Percent Range Units:** weight / weight

**Ingredient EEC Symbol:** Xn - HARMFUL

**Ingredient R phrase(s) (R phrase details given in Heading 16):** R 22 R 31 R 41

**TLV:** 5 mg/m<sup>3</sup> (ACGIH - TWA)

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

---

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** White to tan powder or crystals

**Odor:** None

**EU Symbols:** Xn - HARMFUL

**R PHRASES:** R 22: Harmful if swallowed. R 31: Contact with acids liberates toxic gas. R 41: Risk of serious damage to eyes.

**Protective Equipment:**

**Potential Health Effects:**

**Eye Contact (EC):** Causes irritation

**Skin Contact (EC):** Causes irritation

**Skin Absorption (EC):** None Reported

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

**Ingestion (EC):** Causes: irritation of the mouth and esophagus May cause allergic respiratory reaction if swallowed or inhaled. May cause: abdominal pain diarrhea vomiting headache central nervous system depression

**Target Organs (Ing E):** Central nervous system Gastrointestinal tract

**Inhalation:** Causes: irritation of nose and throat May cause: allergic respiratory reaction

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

**Medical Conditions Aggravated:** Pre-existing: Eye conditions Skin conditions Respiratory conditions Sulfites are strong sensitizers. Inhalation and ingestion may cause allergic respiratory reactions in asthmatics. Persons with respiratory conditions should take special care when working with products that contain sulfites.

**Chronic Effects:** Chronic overexposure may cause allergic respiratory reactions respiratory tract damage Chronic ingestion of sodium metabisulfite caused anemia and reduced body weight gain in experimental animals.

**Cancer / Reproductive Toxicity Information:**

An ingredient of this mixture is: IARC Group 3: Non-classifiable Metabisulfites

**Additional Cancer / Reproductive Toxicity Information:** Sodium metabisulfite has shown positive results in screening tests for mutagenicity.

**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 soap and plenty of water for 15 minutes. Call physician immediately.

**Ingestion (First Aid):** Do not induce vomiting. Give 1-2 glasses of water under medical supervision. Call physician immediately. Never give anything by mouth to an unconscious person.

**Inhalation:** Remove to fresh air. Give artificial respiration if necessary. Call physician.

---

### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** During a fire, this product decomposes to form toxic gases.

**Hazardous Combustion Products:** Toxic fumes of: sulfur oxides. carbon monoxide, carbon dioxide. nitrogen oxides. sodium oxides

**Fire / Explosion Hazards:** May react violently with: strong oxidizers

**Static Discharge:** None reported.

**Mechanical Impact:** None reported  
**Extinguishing Media:** Carbon dioxide Dry chemical. Alcohol foam.  
**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.

---

## 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:** Stop spilled material from being released to the environment. Cover spilled solid material with sand or other inert material.

**Clean-up Technique:** Scoop up spilled material into a large beaker and dissolve with 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.

**Evacuation Procedure:** Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: a pound or more of loose powder 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 dust. Wash thoroughly after handling.

**Storage:** Protect from: moisture oxidizers acids / acid fumes.

**Special Packaging Instructions:** Not applicable

**Use of the substance/preparation:** Indicator for silica

---

## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Have an eyewash station 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: dust Wash thoroughly after handling. Protect from: oxidizers acids/acid fumes

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** 3 mg/m<sup>3</sup>, Inhalable dust

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** White to tan powder or crystals

**Physical State:** Solid

**Odor:** None

**pH:** 5% solution = 4,5

**Vapor Pressure:** Not applicable

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

**Boiling Point:** Not applicable

**Melting Point:** Decomposes

**Flash Point:** Not applicable

**Method:** Not applicable

**Autoignition Temperature:** Not determined

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Specific Gravity (water = 1):** 2,261

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

**Volatile Organic Compounds Content:** Not applicable

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

**Solubility:**

**Water:** Partially soluble

**Acid:** Soluble HCl, H<sub>2</sub>SO<sub>4</sub>

**Other:** Soluble in NaOH

**Metal Corrosivity:**

**Steel:** 0,0626 in/yr

**Aluminum:** 0,0002 in/yr

---

## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Heating to decomposition. Excess moisture

**Reactivity / Incompatibility:** May react violently in contact with: acids oxidizers

**Hazardous Decomposition:** Toxic fumes of: carbon monoxide carbon dioxide sulfur oxides

**Hazardous Polymerization:** Will not occur.

---

## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** Oral rat LD<sub>50</sub> = 1100 mg/kg.

**LC50:** None reported

**Dermal Toxicity Data:** None reported

**Skin and Eye Irritation Data:** None reported

**Mutation Data:** Sodium metabisulfite has shown positive results in screening tests for mutagenicity.

Cytogenic analysis hamster ovary 180 µg/L; Sister chromatid exchange on hamster ovary at 200 µg/L

**Reproductive Effects Data:** Sodium metabisulfite: Oral rat TD<sub>Lo</sub> 20 g/Kg Effects on newborn - stillbirth;  
Oral rat TD<sub>Lo</sub> 40 g/Kg Effects on newborn - weaning or lactation index

--

**Ingredient Toxicological Data:** Amino Acid F: Oral rat LD<sub>50</sub> >2000 mg/Kg; Sodium metabisulfite: Oral rat LD<sub>50</sub> = 1131 mg/kg

An ingredient of this mixture is: IARC Group 3: Non-classifiable  
Metabisulfites

---

## 12. ECOLOGICAL INFORMATION

**Product Ecological Information:** --

No ecological data available for this product.

**Ingredient Ecological Information:** --

No ecological data available for the ingredients of this product.

---

## 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:*** Not Currently Regulated

--

***ICAO Hazard Class:*** NA

***ICAO Subsidiary Risk:*** NA

***ICAO UN/ID Number:*** NA

***ICAO Packing Group:*** NA

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

***I.M.O. Proper Shipping Name:*** Not Currently Regulated

--

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

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

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

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

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

***A.D.R. Proper Shipping Name:*** Not Currently Regulated

--

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

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

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

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

***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:*** Xn - HARMFUL

***R PHRASES:*** R 22: Harmful if swallowed. R 31: Contact with acids liberates toxic gas. 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. S 46: If swallowed, seek medical advice immediately and show this container or label.

---

## 16. OTHER INFORMATION

***References:*** 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. 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. In-house information. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. Technical Judgment. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Vendor Information. Hui, JY et al, "Comparative subchronic oral toxicity of sulfite and acetaldehyde hydroxysulfonate in rats", Food Cosmet. Toxicol., 27(6), pp. 349-59, 1989. Pekhov, AP and Reshetnikova, VN, "Test Strains of E.coli for the detection of chemical mutagens:", Bull. Exp. Bio. Med. (USSR), 4, pp. 1043-5, 1977. Subba Rao, V and Aiyar, AS, "Mutagenicity evaluation studies with food additives and radiolytic products", Proc. Symp. Muta. Carc.

Tera. Chem., pp. 104-14, 1975. Til, HP, Feron, VJ and de Groot, AP, "The toxicity of sulphite. I. Long-term feeding and multigeneration studies in rats", Food Cosmet. Toxicol., 10, pp 291-310, 1972.

**R PHRASES:** R 22: Harmful if swallowed. R 31: Contact with acids liberates toxic gas. R 41: Risk of serious damage to eyes.

**Use of the substance/preparation:** Indicator for silica

**Revision Summary:** Updates in Section(s) 1,

---

**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. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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