

World Headquarters  
Hach Company  
P.O.Box 389  
Loveland, CO USA 80539  
(970) 669 -3050

MSDS No: M00489

## SAFETY DATA SHEET

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

**Product Name:** Buffer Solution, Sulfate Type  
**Catalog Number:** 45249

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:** M00489  
**Chemical Name:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Use of the substance/preparation:** Buffer  
**CAS No.:** Not applicable  
**Hazard:** Causes eye burns.  
**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:** 65,0 - 75,0  
**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

#### 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

#### Sodium Sulfate

**EEC Number:** 2318209  
**CAS No.:** 77586  
**Percent Range:** 10,0 - 20,0

**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 liquid  
**Odor:** None  
**EU Symbols:** Xi - IRRITATING  
**R PHRASES:** R 41: Risk of serious damage to eyes.

**Protective Equipment:**

**Potential Health Effects:**

**Eye Contact (EC):** Causes severe irritation  
**Skin Contact (EC):** May cause irritation  
**Skin Absorption (EC):** None Reported  
**Target Organs (SA E):** None Reported  
**Ingestion (EC):** May cause: gastrointestinal tract irritation  
**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:** None reported  
**Cancer / Reproductive Toxicity Information:**  
This product does NOT contain any IARC listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** Tests performed on this product / components gave insufficient evidence to classify for carcinogenicity.

**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 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:** None required.

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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:** None reported  
**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:** Absorb spilled liquid with non-flammable, non-toxic, 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. 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, clothing. 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:** Buffer

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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:** disposable latex gloves, lab coat

**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes, skin, clothing. Wash thoroughly after handling. Protect from: freezing

**TLV:** Not established

**PEL:** Not established

**EU Occupational Exposure Limits:** Not established

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Odor:** None

**pH:** 2,0 @ 20°C

**Vapor Pressure:** Not determined

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

**Boiling Point:** 100°C (212°F)

**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):** 1,198

**Evaporation Rate (water = 1):** 0,54

**Volatile Organic Compounds Content:** Not applicable

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

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** 0,124 in/yr

**Aluminum:** 0,012 in/yr

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Evaporation Extreme temperatures  
**Reactivity / Incompatibility:** May react violently in contact with: calcium hypochlorite  
**Hazardous Decomposition:** Toxic fumes of: sodium oxides 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:** Sodium Bisulfate: Oral rat LD<sub>50</sub> = 2828 mg/kg, Oral rat LD<sub>50</sub> = 1600 mg/kg; Sodium Sulfate: Oral mouse LD<sub>50</sub> = 5989 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:** Sodium Sulfate: Aquatic Toxicity - TLm 13500 mg/L bluegill sunfish / 96 hours, TLm 16500 mg/L mosquito fish / 96 hours

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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:** Not Currently Regulated

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**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

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**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

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**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

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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 41: Risk of serious damage to eyes.

*S PHRASES:* S 24: Avoid contact with skin. S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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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. TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992. Technical Judgment. 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.

*R PHRASES:* R 41: Risk of serious damage to eyes.

*Use of the substance/preparation:* Buffer

*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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