

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

Page 1  
Date Printed 2/23/09  
MSDS No: M00596

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Hardness Monitor Buffer Solution for 2 and 5 mg/l Hardness  
**Catalog Number:** 2224553

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

Emergency Telephone Numbers:  
(Medical and Transportation)  
(303) 623-5716 24 Hour Service  
(515) 232-2533 8am - 4pm CST

**MSDS Number:** M00596  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** Causes eye burns. Harmful if absorbed through skin.  
**Date of MSDS Preparation:**  
**Day:** 28  
**Month:** March  
**Year:** 2007

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Acetic Acid

**CAS No.:** 64-19-7  
**TSCA CAS Number:** 64-19-7  
**Percent Range:** 1.0 - 5.0  
**Percent Range Units:** volume / volume  
**LD50:** Oral rat LD50 = 3310 mg/kg  
**LC50:** Human TCLo = 816 ppm / 3 minutes (Irritant) ; Mouse LC50 = 5620 ppm / 1 hour  
**TLV:** 10 ppm (15 ppm STEL)  
**PEL:** 10 ppm  
**Hazard:** Flammable. Causes severe burns.

### Octylphenoxypolyethoxyethanol

**CAS No.:** 9036-19-5  
**TSCA CAS Number:** 9036-19-5  
**Percent Range:** 1.0 - 5.0  
**Percent Range Units:** weight / volume  
**LD50:** Oral rat LD50 = 1800 mg/kg  
**LC50:** Inhalation rat LC50 > 21.5 mg/l  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** Causes severe eye irritation.

### Demineralized Water

**CAS No.:** 7732-18-5  
**TSCA CAS Number:** 7732-18-5  
**Percent Range:** 30.0 - 40.0

**Percent Range Units:** volume / volume  
**LD50:** None reported  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** No effects anticipated.

**Aminomethylpropanol**

**CAS No.:** 124-68-5  
**TSCA CAS Number:** 124-68-5  
**Percent Range:** 50.0 - 60.0  
**Percent Range Units:** weight / volume  
**LD50:** Oral rat LD50 = 2900 mg/kg  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** Causes burns. Combustible.

---

### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Clear, colorless liquid

**Odor:** Amine

CAUSES EYE BURNS HARMFUL IF ABSORBED THROUGH SKIN MAY CAUSE RESPIRATORY TRACT IRRITATION

**HMIS:**

**Health:** 2

**Flammability:** 1

**Reactivity:** 0

**Protective Equipment:** X - See protective equipment, Section 8.

**NFPA:**

**Health:** 2

**Flammability:** 1

**Reactivity:** 0

**Symbol:** Not applicable

**Potential Health Effects:**

**Eye Contact:** Causes eye burns.

**Skin Contact:** Causes mild irritation

**Skin Absorption:** Will be absorbed through the skin.

**Target Organs:** None reported

**Ingestion:** May cause: abdominal pain gastrointestinal irritation diarrhea nausea vomiting calcium deficiency in the blood Very large doses may cause: kidney damage

**Target Organs:** Kidneys

**Inhalation:** May cause: respiratory tract irritation

**Target Organs:** None reported

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

**Chronic Effects:** Chronic overexposure may cause kidney damage

**Cancer / Reproductive Toxicity Information:**

This product does NOT contain any OSHA listed carcinogens.



This product does NOT contain any IARC listed chemicals.

This product does NOT contain any NTP listed chemicals.

**Additional Cancer / Reproductive Toxicity Information:** None reported  
**Toxicologically Synergistic Products:** None reported

---

#### 4. FIRST AID

**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:** Can burn in fire, releasing toxic vapors.

**Flash Point:** >100°C; 212°F

**Method:** Closed cup

**Flammability Limits:**

**Lower Explosion Limits:** Not available

**Upper Explosion Limits:** Not available

**Autoignition Temperature:** Not available

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

**Fire / Explosion Hazards:** None reported

**Static Discharge:** None reported.

**Mechanical Impact:** None reported

**Extinguishing Media:** Use media appropriate to surrounding fire conditions

**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 may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance.

**Containment Technique:** Stop spilled material from being released to the environment. Absorb spilled liquid with non-reactive sorbent material.

**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: a gallon or more of liquid is spilled. If conditions warrant, increase the size of the evacuation.

**Special Instructions (for accidental release):** Product is regulated as RCRA hazardous waste.

**304 EHS RQ (40 CFR 355):** Not applicable

**D.O.T. Emergency Response Guide Number:** None

---

## 7. HANDLING / STORAGE

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

**Storage:** Protect from: heat sparks, flames and other ignition sources Keep away from: oxidizers

**Flammability Class:** Class IIIB

---

## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

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

**Personal Protective Equipment:**

**Eye Protection:** chemical splash goggles

**Skin Protection:** neoprene 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. Protect from: heat Keep away from: oxidizers

**TLV:** Not established

**PEL:** Not established

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** Amine

**pH:** 10.7

**Vapor Pressure:** Not available

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

**Boiling Point:** Not determined

**Melting Point:** Not available

**Specific Gravity (water = 1):** Not determined

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

**Volatile Organic Compounds Content:** Not available

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

**Solubility:**

**Water:** Miscible

**Acid:** Miscible

**Other:** Not determined

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

---

## 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 dioxide carbon monoxide

**Hazardous Polymerization:** Will not occur.



---

## 11. TOXICOLOGICAL INFORMATION

### **Product Toxicological Data:**

**LD50:** None reported

**LC50:** None reported

**Dermal Toxicity Data:** Octylphenoxypolyethoxyethanol: Dermal rabbit LD50 > 3000 mg/kg

**Skin and Eye Irritation Data:** Aminomethylpropanol: Skin at 1 hour exposure: erythema score of 1 @ 1 hour, edema score of 0.67 @ 1 hour - MILD; Skin at 4 hours exposure: erythema score of 1.33 @ 1 hour, edema score of 1.67 @ 1 hour - MILD

**Mutation Data:** Octylphenoxypolyethoxyethanol: DNA inhibition human lymphocytes 5 ppm; DNA inhibition mouse cells 10 ppm

**Reproductive Effects Data:** None reported

**Ingredient Toxicological Data:** Aminomethylpropanol: oral rat: LD50 = 2900 mg/kg;  
octylphenoxypolyethoxyethanol: oral rat LD50 = 1800 mg/kg; acetic acid oral rat LD 50 = 3310 mg/kg; human TCLo = 816 ppm/3min - irritant

---

## 12. ECOLOGICAL INFORMATION

### **Product Ecological Information: --**

No ecological data available for this product.

**Ingredient Ecological Information:** Octylphenoxypolyethoxyethanol: Bluegill sunfish (*Lepomis macrochirus*), 96 Hour dynamic >10 mg/l

---

## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** None

**Special Instructions (Disposal):** Dilute material with excess water making a weaker than 5% solution. Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system.

**Empty Containers:** Rinse three times with an appropriate solvent. Dispose of empty container as normal trash.

**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.

---

## 14. TRANSPORT INFORMATION

### **D.O.T.:**

**D.O.T. Proper Shipping Name:** Not Currently Regulated

--

**DOT Hazard Class:** NA

**DOT Subsidiary Risk:** NA

**DOT ID Number:** NA

**DOT Packing Group:** NA

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

**I.C.A.O. Proper Shipping Name:** Not Currently Regulated

--

**ICAO Hazard Class:** NA

**ICAO Subsidiary Risk:** NA

**ICAO 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. ID Number:** NA

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

**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.

---

## 15. REGULATORY INFORMATION

**U.S. Federal Regulations:**

**O.S.H.A.:** This product meets the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

**E.P.A.:**

**S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370):** Immediate (Acute) Health Hazard

**S.A.R.A. Title III Section 313 (40 CFR 372):** This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.

--

**302 (EHS) TPQ (40 CFR 355):** Not applicable

**304 CERCLA RQ (40 CFR 302.4):** Acetic acid 5000 lbs.

**304 EHS RQ (40 CFR 355):** Not applicable

**Clean Water Act (40 CFR 116.4):** Acetic acid - RQ 5000 lbs.

**RCRA:** Contains RCRA regulated substances. See Section 13, EPA Waste ID Number.

**C.P.S.C.:** Not applicable

**State Regulations:**

**California Prop. 65:** No Prop. 65 listed chemicals are present in this product.

**Identification of Prop. 65 Ingredient(s):** None

**California Perchlorate Rule CCR Title 22 Chap 33:**

**Trade Secret Registry:** Not applicable

**National Inventories:**

**U.S. Inventory Status:** All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

**TSCA CAS Number:** Not applicable

---

## 16. OTHER INFORMATION

**Intended Use:** Hardness determination

**References:** 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). 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-house information. Technical Judgment.

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

---

**Legend:**



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

Page 7  
Date Printed 2/23/09  
MSDS No: M00596

NA - Not Applicable  
ND - Not Determined  
NV - Not Available

w/w - weight/weight  
w/v - weight/volume  
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.**

**HACH COMPANY ©2009**