

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Buffer Solution pH 4.01 ± 0.02

**Catalog Number:** 2283449

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:** M00368

**Chemical Name:** Not applicable

**CAS No.:** Not applicable

**Chemical Formula:** Not applicable

**Chemical Family:** Not applicable

**Hazard:** Practically non-toxic.

**Date of MSDS Preparation:**

**Day:** 09

**Month:** February

**Year:** 2008

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Demineralized Water

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

**TSCA CAS Number:** 7732-18-5

**Percent Range:** >95.0

**Percent Range Units:** weight / weight

**LD50:** None reported

**LC50:** None reported

**TLV:** Not established

**PEL:** Not established

**Hazard:** No effects anticipated.

### Other components, each

**CAS No.:** Not applicable

**TSCA CAS Number:** Not applicable

**Percent Range:** < 1.0

**Percent Range Units:** volume / volume

**LD50:** Not applicable

**LC50:** Not applicable

**TLV:** Not established

**PEL:** Not established

**Hazard:** Any ingredient(s) of this product listed as "Other component(s)" is not considered a health hazard to the user of this product.

### Potassium Acid Phthalate

**CAS No.:** 877-24-7

**TSCA CAS Number:** 877-24-7

**Percent Range:** 1.0 - 5.0  
**Percent Range Units:** weight / volume  
**LD50:** Oral rat LDLo = 3200 mg/kg  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** May cause irritation.

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### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Clear, red liquid

**Odor:** None

**HMIS:**

**Health:** 0

**Flammability:** 0

**Reactivity:** 0

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

**NFPA:**

**Health:** 0

**Flammability:** 0

**Reactivity:** 0

**Symbol:** Not applicable

**Potential Health Effects:**

**Eye Contact:** No effects are anticipated

**Skin Contact:** No effects are anticipated

**Skin Absorption:** No effects anticipated

**Target Organs:** Not applicable

**Ingestion:** No Effects Anticipated

**Target Organs:** Not applicable

**Inhalation:** No effects anticipated

**Target Organs:** Not applicable

**Medical Conditions Aggravated:** None reported

**Chronic Effects:** No effects anticipated

**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

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### 4. FIRST AID

**Eye Contact:** Flush eyes with water. Call physician if irritation develops.

**Skin Contact (First Aid):** Wash skin with soap and plenty of water.  
**Ingestion (First Aid):** Give large quantities of water. Call physician immediately.  
**Inhalation:** None required.

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## 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material will not burn.  
**Flash Point:** Not applicable  
**Method:** Not applicable  
**Flammability Limits:**  
**Lower Explosion Limits:** Not applicable  
**Upper Explosion Limits:** Not applicable  
**Autoignition Temperature:** Not applicable  
**Hazardous Combustion Products:** Not applicable  
**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.

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## 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.  
**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.  
**Special Instructions (for accidental release):** Not applicable  
**304 EHS RQ (40 CFR 355):** Not applicable  
**D.O.T. Emergency Response Guide Number:** None

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## 7. HANDLING / STORAGE

**Handling:** Avoid contact with eyes Wash thoroughly after handling.  
**Storage:** Keep container tightly closed when not in use.  
**Flammability Class:** Not applicable

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## 8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

**Engineering Controls:** Maintain general industrial hygiene practices when using this product.  
**Personal Protective Equipment:**  
**Eye Protection:** safety glasses with top and side shields  
**Skin Protection:** disposable latex gloves  
**Inhalation Protection:** adequate ventilation

**Precautionary Measures:** Avoid contact with: eyes Wash thoroughly after handling.  
**TLV:** Not established  
**PEL:** Not established

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, red liquid  
**Physical State:** Liquid  
**Molecular Weight:** Not applicable  
**Odor:** None  
**pH:** 4.01  
**Vapor Pressure:** Not determined  
**Vapor Density (air = 1):** Not determined  
**Boiling Point:** > 100°C (> 212°F)  
**Melting Point:** < 0°C (< 32°F)  
**Specific Gravity (water = 1):** 1.002  
**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:** Not determined  
**Aluminum:** Not determined

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## 10. STABILITY / REACTIVITY

**Chemical Stability:** Stable when stored under proper conditions.  
**Conditions to Avoid:** Extreme temperatures  
**Reactivity / Incompatibility:** None reported  
**Hazardous Decomposition:** None reported  
**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  
**Ingredient Toxicological Data:** Potassium Acid Phthalate: Oral rat LD<sub>Lo</sub> = 3200 mg/kg

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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

**EPA Waste ID Number:** None

**Special Instructions (Disposal):** Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain.

**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.

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### 14. TRANSPORT INFORMATION

**D.O.T.:**

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

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**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

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**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

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**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:** 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:

Hazard Class: 9      UN Number 3316.

Proper Shipping Name: Chemical Kit

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### 15. REGULATORY INFORMATION

**U.S. Federal Regulations:**

**O.S.H.A.:** This product does not meet 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):** This product is not hazardous under 29 CFR.1910.1200 and therefore is not covered by Title III under SARA.

**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.

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

**304 CERCLA RQ (40 CFR 302.4):** Not applicable

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

**Clean Water Act (40 CFR 116.4):** Not applicable

**RCRA:** Contains no RCRA regulated substances.

**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):** --

**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

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## 16. OTHER INFORMATION

**Intended Use:** Buffer

**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. In-house information. 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.

**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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