

The following list contains the Material Safety Data Sheets you requested. Please scroll down to view the requested MSDS(s).

<u>Product</u>	<u>MSDS</u>	<u>Distributor</u>	<u>Format</u>	<u>Language</u>	<u>Quantity</u>
LPV2211T.97.002	MLZW9462	Hach Company	OSHA	English	1
LPV2211T.97.002	MLZW9460	Hach Company	OSHA	English	1
LPV2211T.97.002	MLZW9461	Hach Company	OSHA	English	1
LPV2211T.97.002	MLZW951X	Hach Company	OSHA	English	1

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Total Enclosures: 4

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

MSDS No: M02744

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** pH 9.21  
**Catalog Number:** MLZW9462

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:** M02744  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** No effects anticipated.  
**Date of MSDS Preparation:**  
**Day:** 21  
**Month:** June  
**Year:** 2010

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Demineralized Water

**CAS No.:** 7732-18-5  
**TSCA CAS Number:** 7732-18-5  
**Percent Range:** 90.0 - 100.0  
**Percent Range Units:** weight / weight  
**LD50:** None reported  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** No effects anticipated.

### Sodium Tetraborate

**CAS No.:** 1303-96-4  
**TSCA CAS Number:** 1330-43-4  
**Percent Range:** <1.5  
**Percent Range Units:** weight / weight  
**LD50:** Oral rat LD50 = 2660 mg/kg; oral man LDLo = 709 mg/kg  
**LC50:** None reported  
**TLV:** 5 mg/m<sup>3</sup>  
**PEL:** 10 mg/m<sup>3</sup>  
**Hazard:** May cause irritation. May cause harm to the unborn child. May impair fertility

### Other component

**CAS No.:** Not applicable  
**TSCA CAS Number:** Not applicable  
**Percent Range:** < 0.1  
**Percent Range Units:** weight / weight  
**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.

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### 3. HAZARDS IDENTIFICATION

**Emergency Overview:**

**Appearance:** Clear, colorless liquid

**Odor:** None

MAY CAUSE EYE IRRITATION

**HMIS:**

**Health:** 1

**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:** May cause mild irritation

**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 plenty of water.

**Ingestion (First Aid):** Give large quantities of water. If you feel unwell, contact a physician.

**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:**

**Hazardous Combustion Products:** None reported

**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. 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 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:** 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:** Absorb spilled liquid with non-reactive sorbent material. Sweep up material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse.

**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 determined

**PEL:** Not determined

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** None

**pH:** 9.21

**Vapor Pressure:** Not determined

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

**Boiling Point:** Approximately 100 deg C

**Melting Point:** Approximately 0 deg C

**Specific Gravity/ Relative Density (water = 1; air =1):** Approximately 1

**Evaporation Rate (water = 1):** Approximately 1

**Volatile Organic Compounds Content:** Not determined

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

**Solubility:**

**Water:** Soluble

**Acid:** Not determined

**Other:**

**Metal Corrosivity:**

**Steel:** Not applicable

**Aluminum:** Not applicable

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## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Heat Evaporation

**Reactivity / Incompatibility:** None reported

**Hazardous Decomposition:** None reported

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** Not determined

**LC50:** Not determined

**Dermal Toxicity Data:** Not determined

**Skin and Eye Irritation Data:** Irritating to eyes and skin

**Mutation Data:** No data available

**Reproductive Effects Data:** No data available.

**Ingredient Toxicological Data:** NOEL for sodium borate is 9.6 mg/kg bw/day as B.

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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):** Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

**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

**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.

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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.

**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):**

**California Perchlorate Rule CCR Title 22 Chap 33:** Not applicable

**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. Directive 98/8/EC Assessment Report Boric Oxide 20 February 2009

**Revision Summary:** New MSDS

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

MSDS No: M02746

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** pH 4.01  
**Catalog Number:** MLZW9460

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:** M02746  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** No effects anticipated.  
**Date of MSDS Preparation:**  
**Day:** 22  
**Month:** June  
**Year:** 2010

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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:** volume / volume  
**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:** < 0.1  
**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, colorless 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:* This product will not burn or explode.  
*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.

**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:**

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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. Protect from: heat

**Flammability Class:** Not applicable

---

## 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:** lab coat

**Inhalation Protection:** adequate ventilation

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

**TLV:**

**PEL:**

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## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** None

**pH:** 4.01 (25<sup>0</sup>)

**Vapor Pressure:** Not determined

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

**Boiling Point:** 100 <sup>0</sup>C

**Melting Point:** 0 <sup>0</sup>C

**Specific Gravity/ Relative Density (water = 1; air =1):** 1

**Evaporation Rate (water = 1):** Approximately 1

**Volatile Organic Compounds Content:** Not determined

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

**Solubility:**

**Water:** Completely soluble

**Acid:** Not determined

**Other:** Not applicable

**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 Evaporation

**Reactivity / Incompatibility:** None reported

**Hazardous Decomposition:** None reported

**Hazardous Polymerization:** Will not occur.

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## 11. TOXICOLOGICAL INFORMATION

**Product Toxicological Data:**

**LD50:** Not determined

**LC50:** Not determined

**Dermal Toxicity Data:** Not determined

**Skin and Eye Irritation Data:** No effects anticipated.

**Mutation Data:** None reported

**Reproductive Effects Data:** None reported

**Ingredient Toxicological Data:**

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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

**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 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.

**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):** None

**California Perchlorate Rule CCR Title 22 Chap 33:** Not applicable

**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:** New MSDS

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

MSDS No: M02745

# MATERIAL SAFETY DATA SHEET

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## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** pH 7.01  
**Catalog Number:** MLZW9461

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:** M02745  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** No effects anticipated.  
**Date of MSDS Preparation:**  
**Day:** 21  
**Month:** June  
**Year:** 2010

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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:** volume / volume  
**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.

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## 3. HAZARDS IDENTIFICATION

### **Emergency Overview:**

**Appearance:** Clear, colorless  
**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

---

#### 4. FIRST AID

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

**Skin Contact (First Aid):** Wash skin with plenty of water.

**Ingestion (First Aid):** Give large quantities of water. If you feel unwell, contact a physician.

**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:** None

**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.

**Clean-up Technique:** Absorb spilled liquid with non-reactive sorbent material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse.

**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

---

## 7. HANDLING / STORAGE

**Handling:** Avoid contact with eyes Wash thoroughly after handling.

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

**Flammability Class:** Not applicable

---

## 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:** Not applicable

**Inhalation Protection:** adequate ventilation

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

**TLV:** Not applicable

**PEL:** Not applicable

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** None

**pH:** 7.00

**Vapor Pressure:** Not determined

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

**Boiling Point:** 100 deg C

**Melting Point:** 0 deg C

**Specific Gravity/ Relative Density (water = 1; air =1):** Approximately 1

**Evaporation Rate (water = 1):** Approximately 1

**Volatile Organic Compounds Content:** Not determined

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

**Solubility:**

**Water:** Completely soluble

**Acid:** Not determined

**Other:** Not applicable

**Metal Corrosivity:**

**Steel:** Not determined

**Aluminum:** Not determined

---

## 10. STABILITY / REACTIVITY

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

**Conditions to Avoid:** Heat Evaporation

**Reactivity / Incompatibility:** None reported

**Hazardous Decomposition:** None reported

**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:* None reported  
*Mutation Data:* None reported  
*Reproductive Effects Data:* None reported  
*Ingredient Toxicological Data:*  
No toxicological data available for the ingredients of this product.

---

## 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

*EPA Waste ID Number:* None  
*Special Instructions (Disposal):* Open cold water tap completely, slowly pour the 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.

---

## 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 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.  
*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):**

**California Perchlorate Rule CCR Title 22 Chap 33:** Not applicable

**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:** 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. In-house information. Technical Judgment.

**Revision Summary:** New MSDS

---

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

MSDS No: M02073

# MATERIAL SAFETY DATA SHEET

---

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** KCl 3M Electrolyte  
**Catalog Number:** MLZW951X

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:** M02073  
**Chemical Name:** Not applicable  
**CAS No.:** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Not applicable  
**Hazard:** May cause eye irritation.  
**Date of MSDS Preparation:**  
**Day:** 07  
**Month:** June  
**Year:** 2010

---

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

### Demineralized Water

**CAS No.:** 7732-18-5  
**TSCA CAS Number:** 7732-18-5  
**Percent Range:** 70.0 - 80.0  
**Percent Range Units:** volume / volume  
**LD50:** None reported  
**LC50:** None reported  
**TLV:** Not established  
**PEL:** Not established  
**Hazard:** No effects anticipated.

### Potassium Chloride

**CAS No.:** 7447-40-7  
**TSCA CAS Number:** 7447-40-7  
**Percent Range:** 20.0 - 30.0  
**Percent Range Units:** weight / volume  
**LD50:** Oral rat LD<sub>50</sub> = 2600 mg/kg  
**LC50:** None reported.  
**TLV:** Not established.  
**PEL:** Not established.  
**Hazard:** May cause irritation.

---

## 3. HAZARDS IDENTIFICATION

### **Emergency Overview:**

**Appearance:** Clear, colorless liquid with white precipitate  
**Odor:** None  
MAY CAUSE EYE IRRITATION

**HMIS:**

**Health:** 1

**Flammability:** 0

**Reactivity:** 0

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

**NFPA:**

**Health:** 1

**Flammability:** 0

**Reactivity:** 0

**Symbol:** Not applicable

**Potential Health Effects:**

**Eye Contact:** May cause irritation

**Skin Contact:** None reported

**Skin Absorption:** None reported

**Target Organs:** None reported

**Ingestion:** Very large doses may cause: abdominal cramps weakness circulatory disturbances heart problems central nervous system effects

**Target Organs:** Blood Heart

**Inhalation:** No effects anticipated

**Target Organs:** Not applicable

**Medical Conditions Aggravated:** Pre-existing: Kidney conditions

**Chronic Effects:** None reported

**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.

**Ingestion (First Aid):** Give large quantities of water. Call physician immediately.

**Inhalation:** None required.

---

## 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:** 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

**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 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:** 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:** Absorb spilled liquid with non-reactive sorbent material. Sweep up material. Place material in a plastic bag. Mark bag 'Non-hazardous trash', and dispose of as normal refuse. 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

---

## 7. HANDLING / STORAGE

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

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

**Flammability Class:** Not applicable

---

## 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 Protection:** disposable latex gloves

**Inhalation Protection:** adequate ventilation

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

**TLV:** Not established

**PEL:** Not established

---

## 9. PHYSICAL / CHEMICAL PROPERTIES

**Appearance:** Clear, colorless liquid with white precipitate

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** None

**pH:** Not determined

**Vapor Pressure:** Not determined

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

**Boiling Point:** Not determined

**Melting Point:** Not applicable

**Specific Gravity/ Relative Density (water = 1; air =1):** Not determined

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

**Volatile Organic Compounds Content:** Not applicable

**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:** Extreme temperatures Evaporation  
**Reactivity / Incompatibility:** May react violently in contact with: bromine trifluoride sulfuric acid potassium permanganate  
**Hazardous Decomposition:** None reported  
**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:** Potassium Chloride: Eye irritation rabbit (Std. Draize Test): 500 mg/24 hrs = MILD  
**Mutation Data:** None reported  
**Reproductive Effects Data:** None reported  
**Ingredient Toxicological Data:** Oral rat LD50 = 2600 mg/kg; Oral man LDLo = 20 mg/kg.

---

## 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

**EPA Waste ID Number:** None  
**Special Instructions (Disposal):** Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.  
**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):** Not applicable

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

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

**RCRA:** Not applicable

**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:** Not applicable

**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:** Analytical reagent

**References:** 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. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. 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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