

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

MSDS No: M00370

## SAFETY DATA SHEET

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### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Buffer Solution pH 10.01 ± 0.02  
**Catalog Number:** 2283656

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:** M00370  
**Chemical Name:** Not applicable  
**CAS Number:** Not applicable  
**Additional CAS No. (for hydrated forms):** Not applicable  
**Chemical Formula:** Not applicable  
**Chemical Family:** Mixture  
**Intended Use:** Buffer

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### 2. HAZARDS IDENTIFICATION

This mixture is not classified as hazardous per GHS (UN publication ST/SG/AC.10/36/Add.3)

**GHS Classification:**

**Hazard categories:** Not applicable

**GHS Label Elements:**

Not applicable

**Hazard statements:** Not applicable

**Precautionary statements:** Not applicable

**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

**WHMIS Hazard Classification:** Not applicable

**WHMIS Symbols:** Not applicable

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Hazardous Components according to GHS:**

**Sodium Bicarbonate**

**CAS Number:** 144-55-8

**Chemical Formula:** NaHCO<sub>3</sub>

**GHS Classification:**

**Percent Range:** < 1.0

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust  
**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Not applicable

**Formaldehyde**

**CAS Number:** 50-00-0

**Chemical Formula:** CH<sub>2</sub>O

**GHS Classification:** Flam. Liq. 4, H227; Acute Tox. 3 -Orl, H301; Acute Tox. 3 -Derm, H311; Skin Corr. 1B, H314; Skin Sens. 1, H317; Acute Tox. 3 -Inh, H331; Resp. Sens. 1, H334; Muta. 2, H341; Carc. 2, H351; Repr. 2, H361; STOT Single 1, H370; Aquatic Acute 2, H401

**Percent Range:** < 0.1

**Percent Range Units:** weight / weight

**PEL:** 0.75 ppm

**TLV:** 0.3 ppm

**WHMIS Symbols:** Acute PoisonOther Toxic Effects

**Methyl Alcohol**

**CAS Number:** 67-56-1

**Chemical Formula:** CH<sub>3</sub>OH

**GHS Classification:** Flam. Liq. 2, H225; Acute Tox. 3 -Orl, H301; Acute Tox. 3 -Derm, H311; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Acute Tox. 3 -Inh, H331; Muta. 2, H341; Repr. 2, H361; STOT SE1, H370

**Percent Range:** < 0.1

**Percent Range Units:** weight / weight

**PEL:** 200 ppm

**TLV:** 200 ppm

**WHMIS Symbols:** Acute PoisonFlammable / CombustibleOther Toxic Effects

**Sodium Carbonate**

**CAS Number:** 497-19-8

**Chemical Formula:** Na<sub>2</sub>CO<sub>3</sub>

**GHS Classification:** Eye Irrit. 2, H319; Acute Tox. Inh. 4, H332; Acute Tox. Orl. 5, H303

**Percent Range:** < 0.1

**Percent Range Units:** weight / weight

**PEL:** Not established

**TLV:** Not established

**WHMIS Symbols:** Other Toxic Effects

**Dye, Turquoise Blue Pylaklor S-400**

**CAS Number:** 1330-38-7

**Chemical Formula:** C<sub>32</sub>H<sub>14</sub>CuN<sub>8</sub>O<sub>6</sub>S<sub>2</sub>.2Na

**GHS Classification:** Acute Tox. 5-Orl, BH303; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; Aquatic Chronic 3, H412

**Percent Range:** < 0.01

**Percent Range Units:** weight / weight

**PEL:** 15 mg/m<sup>3</sup> as inhalable dust; 5 mg/m<sup>3</sup> as respirable dust

**TLV:** 10 mg/m<sup>3</sup> as inhalable dust; 3 mg/m<sup>3</sup> as respirable dust

**WHMIS Symbols:** Not applicable

**Hazardous Components according to GHS:** No

**Demineralized Water**

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

**Chemical Formula:** H<sub>2</sub>O

**GHS Classification:** Not a dangerous substance according to GHS.

**Percent Range:** > 99.0

**Percent Range Units:** weight / weight

**PEL:** Not established

**TLV:** Not established

*WHMIS Symbols:* Not applicable

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#### 4. FIRST AID MEASURES

**General Information:** In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

**Advice to doctor:** Treat symptomatically.

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

**Skin Contact (First Aid):** Wash skin with plenty of water. Call physician if irritation develops. Remove contaminated clothing.

**Inhalation:** Remove to fresh air.

**Ingestion (First Aid):** Never give anything by mouth to an unconscious person. Rinse mouth with plenty of water. Give large quantities of water. Call physician immediately.

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#### 5. FIRE FIGHTING MEASURES

**Flammable Properties:** Material will not burn. Material is not classified as flammable according to GHS criteria.

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

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

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

**Fire / Explosion Hazards:** This product will not burn or explode. May react violently with: strong acids strong bases

**Hazardous Combustion Products:** carbon monoxide, carbon dioxide.

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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. Absorb spilled liquid with non-reactive sorbent material.

**Clean-up Technique:** If permitted by regulation, Cover spilled material with a dry acid, such as citric or boric. Scoop up slurry into a large beaker. 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. Otherwise, Pick up spill for disposal and place in a closed container. Dispose of in accordance with local, state and federal regulations or laws.

**Evacuation Procedure:** Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

**DOT Emergency Response Guide Number:** Not applicable

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#### 7. HANDLING AND STORAGE

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

**Storage:** Protect from: heat. Keep container tightly closed when not in use. Keep away from: acids bases oxidizers

**Flammability Class:** Not applicable

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#### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**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. Protect from: heat. Keep away from: acids/acid fumes bases oxidizers

**TLV:** Not established

**PEL:** Not established

**For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:**

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Clear, blue

**Physical State:** Liquid

**Molecular Weight:** Not applicable

**Odor:** Odorless

**Odor Threshold:** Not applicable

**pH:** 10.0

**Metal Corrosivity:**

**Corrosivity Classification:** Not classified as corrosive to metals according to GHS criteria.

**Steel:** Not determined

**Aluminum:** Not determined

**Specific Gravity/Relative Density (water = 1; air =1):** 0.990

**Viscosity:** ~ 1.0 mPa·s

**Solubility:**

**Water:** Soluble

**Acid:** Soluble

**Other:** Not determined

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

**Coefficient of Water / Oil:** Not applicable

**Melting Point:** ~ 0 °C (~ 32 °F)

**Decomposition Temperature:** Not applicable

**Boiling Point:** ~ 100 °C (~ 212 °F)

**Vapor Pressure:** 17.5 mm Hg (2.27 kPa) at 20 °C (68 °F)

**Vapor Density (air = 1):** 0.62

**Evaporation Rate (water = 1):** 0.76

**Volatile Organic Compounds Content:** Not applicable

**Flammable Properties:** Material will not burn. Material is not classified as flammable according to GHS criteria.

**Flash Point:** Not applicable

**Method:** Not applicable

**Flammability Limits:**

**Lower Explosion Limits:** Not applicable

**Upper Explosion Limits:** Not applicable

**Autoignition Temperature:** Not applicable

**Explosive Properties:**

Not classified according to GHS criteria.

**Oxidizing Properties:**

Not classified according to GHS criteria.

**Reactivity Properties:**

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

**Gas under Pressure:**

Not classified according to GHS criteria.

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## 10. STABILITY AND REACTIVITY

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

**Mechanical Impact:** No

**Static Discharge:** No

**Reactivity / Incompatibility:** None reported

**Hazardous Decomposition:** Heating to decomposition releases toxic and/or corrosive fumes of: carbon dioxide carbon monoxide formaldehyde sodium oxides nitrogen oxides

**Conditions to Avoid:** Heat Evaporation Extreme temperatures Contact with acid or acid fumes Contact with heat, sparks, open flames or other ignition sources.

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## 11. TOXICOLOGICAL INFORMATION

**Toxicokinetics, Metabolism and Distribution:** No information available for mixture. No health effects are anticipated in normal use.

**Toxicologically Synergistic Products:** None reported

**Acute Toxicity:** Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Practically Non-toxic Based on classification principles, the classification criteria are not met.

**Specific Target Organ Toxicity - Single Exposure (STOT-SE):** Based on classification principles, the classification criteria are not met.

**Specific Target Organ Toxicity - Repeat Exposure (STOT-RE):** Based on classification principles, the classification criteria are not met.

**Skin Corrosion/Irritation:** Based on classification principles, the classification criteria are not met.

**Eye Damage:** Based on classification principles, the classification criteria are not met.

**Sensitization:** Based on classification principles, the classification criteria are not met.

**CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction):** Based on classification principles, the classification criteria are not met.

An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen

Formaldehyde

An ingredient of this mixture is: NTP Listed Group 1: Recognized Carcinogen

Formaldehyde

An ingredient of this product is an OSHA listed carcinogen.

Formaldehyde

**Symptoms/Effects:**

**Ingestion:** Practically non-toxic Large doses may cause: gastrointestinal tract irritation nausea vomiting

**Inhalation:** No effects anticipated

**Skin Absorption:** No effects anticipated

**Chronic Effects:** None reported

**Medical Conditions Aggravated:** None reported

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## 12. ECOLOGICAL INFORMATION

**Product Ecological Information: --**

Based on classification principles, not classified as hazardous to the environment. No bioaccumulation potential

Mobility in soil: Highly mobile

Method Used for Estimation of Aquatic Toxicity of Mixture Summation Method M-factor (Multiplier) for highly toxic ingredients: 1

**Ingredient Ecological Information:** Dye, Turquoise Blue: 48 hr Daphnia pulex LC50 = 100 mg/L; Formaldehyde: 96 hr Morone saxatilis LC50 = 6.7 mg/L; 96 hr Fish LC50 = 52.5 mg/L; 48 hr Daphnia pulex EC50 = 5.8 mg/L; 48 hr Daphnia magna EC50 = 29 mg/L; 48 hr Crustacea EC50 = 14 mg/L

CEPA categorization for ingredients are as follows:

Sodium Carbonate, Sodium Bicarbonate, Dye, Turquoise Blue, Water: Persistent, not bioaccumulative or inherently toxic to aquatic organisms.

Formaldehyde: Not persistent or bioaccumulative. Inherently toxic to aquatic organisms; Methanol: Not persistent, bioaccumulative or inherently toxic to aquatic organisms.

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## 13. DISPOSAL CONSIDERATIONS

**EPA Waste ID Number:** Not applicable

**Special Instructions (Disposal):** Adjust to a pH between 6 and 9 with an acid, such as sulfuric or citric. If permitted by regulation, Open cold water tap completely, slowly pour the reacted material to the drain. Otherwise, Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

**Empty Containers:** Working in a well-ventilated area, Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. Dispose of empty container as normal trash. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste.

**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

**D.O.T.:**

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

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**Hazard Class:** NA  
**Subsidiary Risk:** NA  
**ID Number:** NA  
**Packing Group:** NA

**T.D.G.:**

**Proper Shipping Name:** Not Currently Regulated

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**Hazard Class:** NA  
**Subsidiary Risk:** NA  
**UN Number/PIN:** NA  
**Packing Group:** NA

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

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

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**Hazard Class:** NA  
**Subsidiary Risk:** NA  
**ID Number:** NA  
**Packing Group:** NA

**I.M.O.:**

**Proper Shipping Name:** Not Currently Regulated

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**Hazard Class:** NA  
**Subsidiary Risk:** NA  
**ID Number:** NA  
**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 contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.

Formaldehyde and Methanol

**302 (EHS) TPQ (40 CFR 355):** Formaldehyde 500 lbs.

**304 CERCLA RQ (40 CFR 302.4):** 100 lbs. Formaldehyde 5000 lbs. Methanol

**304 EHS RQ (40 CFR 355):** Formaldehyde - RQ 100 lbs

**Clean Water Act (40 CFR 116.4):** Formaldehyde - RQ 100 lbs.

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

**State Regulations:**

**California Prop. 65:** WARNING - This product contains a chemical known to the State of California to cause cancer.  
WARNING - This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**Identification of Prop. 65 Ingredient(s):** Formaldehyde and Methanol

**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).

**CAS Number:** Not applicable

**Canadian Inventory Status:** All ingredients of this product are DSL Listed.

**EEC Inventory Status:** All ingredients used to make this product are listed on EINECS / ELINCS.

**Australian Inventory (AICS) Status:** All ingredients are listed.

**New Zealand Inventory (NZIoC) Status:** All components either listed or exempt.

**Korean Inventory (KECI) Status:** All components of this product are either listed, listed as the anhydrous compound or exempt.

*Japan (ENCS) Inventory Status:* All components either listed or exempt.

*China (PRC) Inventory (MEP) Status:* All components either listed or exempt.

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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. In-house information.

**Complete Text of H phrases referred to in Section 3:** Not applicable

**Revision Summary:** . Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

**Date of MSDS Preparation:**

**Day:** 08

**Month:** March

**Year:** 2014

**MSDS Prepared:** MSDS prepared by Product Compliance Department extension 3350

**CCOHS Evaluation Note:** It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

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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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