



**Be Right™**

# SAFETY DATA SHEET

Issue Date 22-Jul-2016

Revision Date 18-Oct-2016

Version 4

Page 1 / 20

## 1. IDENTIFICATION

### Product identifier

**Product Name** Buffer Solution pH 10.01 ± 0.02

### Other means of identification

**Product Code(s)** 2283656

**Safety data sheet number** M00370

### Recommended use of the chemical and restrictions on use

**Recommended Use** Buffer.

**Uses advised against** None.

**Restrictions on use** None.

### Details of the supplier of the safety data sheet

#### Manufacturer Address

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

#### Emergency telephone number

(303) 623-5716 - 24 Hour Service (515)232-2533 - 8am - 4pm CST

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Not Hazardous** Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### **Hazards not otherwise classified (HNOC)**

Not applicable

### Label elements

#### **Hazard statements**

EUH210 - Safety data sheet available on request

EUH208 - May produce an allergic reaction

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Other Information**

Not applicable

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Substance**

Not applicable

**Mixture**

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Formaldehyde	50-00-0	<0.1%	-
Methyl alcohol	67-56-1	<0.1%	-
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32]-, disodium	1330-38-7	<0.1%	-

### 4. FIRST AID MEASURES

**Description of first aid measures**

<b>General advice</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.
<b>Skin contact</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician.
<b>Inhalation</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
<b>Ingestion</b>	IF SWALLOWED: Rinse Mouth. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Most important symptoms and effects, both acute and delayed**

Symptoms See Section 11: TOXICOLOGICAL INFORMATION.

**Indication of any immediate medical attention and special treatment needed**

Note to physicians Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** Caution: Use of water spray when fighting fire may be inefficient.

**Flammable properties**

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 3 / 20

Substance does not burn.

**Specific hazards arising from the chemical**

This product will not burn or explode. May react violently with. Strong acids. Strong bases.

**Hazardous combustion products**

Carbon monoxide, Carbon dioxide.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**6. ACCIDENTAL RELEASE MEASURES**

**U.S. 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. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.

**EC Notice**

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

**WHMIS Notice**

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

**For emergency responders**

Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions**

Avoid release to the environment. See Section 12 for additional ecological information.

**Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Neutralize spill if necessary. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

**Emergency Response Guide Number**

Not applicable

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling**

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Flammability class Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Formaldehyde <0.1%	Ceiling: 0.3 ppm	TWA: 0.75 ppm (vacated) TWA: 3 ppm (vacated) STEL: 10 ppm (vacated) Ceiling: 5 ppm STEL: 2 ppm	IDLH: 20 ppm Ceiling: 0.1 ppm 15 min TWA: 0.016 ppm
Methyl alcohol <0.1%	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m <sup>3</sup> (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m <sup>3</sup> (vacated) SKN*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> STEL: 250 ppm STEL: 325 mg/m <sup>3</sup>
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfon ato(4-)-N29,N30,N31,N32]-, disodium <0.1%	TWA: 1 mg/m <sup>3</sup>	NDF	IDLH: 100 mg/m <sup>3</sup> Cu dust and mist TWA: 1 mg/m <sup>3</sup> Cu dust and mist

Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Formaldehyde <0.1%	Ceiling: 1 ppm Ceiling: 1.3 mg/m <sup>3</sup> TWA: 0.75 ppm TWA: 0.9 mg/m <sup>3</sup>	TWA: 0.3 ppm Ceiling: 1 ppm SKN+	Ceiling: 0.3 ppm	TWA: 0.5 ppm STEL: 1.5 ppm	RSP+ Ceiling: 0.3 ppm SKN+
Methyl alcohol <0.1%	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> SKN*	TWA: 200 ppm STEL: 250 ppm SKN*
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32]-, disodium <0.1%	NDF	NDF	TWA: 1 mg/m <sup>3</sup>	NDF	TWA: 1 mg/m <sup>3</sup>

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Formaldehyde <0.1%	Ceiling: 0.3 ppm SKN+	RSP+ Ceiling: 0.3 ppm SKN+	Ceiling: 0.3 ppm	STEL: 1 ppm Ceiling: 1.5 ppm	Ceiling: 0.3 ppm
Methyl alcohol <0.1%	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm TWA: 200 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm TWA: 200 ppm
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32]-, disodium <0.1%	NDF	TWA: 1 mg/m <sup>3</sup>	NDF	NDF	TWA: 1 mg/m <sup>3</sup>

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Formaldehyde <0.1%	Ceiling: 2 ppm Ceiling: 3 mg/m <sup>3</sup>	Ceiling: 0.3 ppm SKN+	Ceiling: 2 ppm Ceiling: 3 mg/m <sup>3</sup>

Methyl alcohol <0.1%	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm STEL: 310 mg/m <sup>3</sup> TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> SKN*
-------------------------	--	---------------------------------------	--

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Legend** See section 16 for terms and abbreviations

**Appropriate engineering controls**

**Engineering Controls** Showers  
 Eyewash stations  
 Ventilation systems

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

**Environmental exposure controls**

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** Liquid

**Gas Under Pressure** Not classified according to GHS criteria

**Appearance** aqueous solution **Color** blue

**Odor** Odorless **Odor threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	10.0	
<b>Melting point/freezing point</b>	~ 0 °C / 32 °F	Estimation based on theoretical calculation
<b>Boiling point / boiling range</b>	~ 100 °C / 212 °F	Estimation based on theoretical calculation
<b>Evaporation rate</b>	0.76 (water = 1)	
<b>Vapor pressure</b>	17.477 mm Hg / 2.33 kPa at 20 °C / 68 °F	

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 6 / 20

**Vapor density (air = 1)** 0.62

**Specific gravity (water = 1 / air = 1)** 0.990

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

**Soil Organic Carbon-Water Partition Coefficient** Not applicable

**Autoignition temperature** No data available

**Decomposition temperature** No data available

**Dynamic viscosity** ~ 1 cP (mPa s) at 20 °C / 68 °F

**Kinematic viscosity** ~ 1.01 cSt (mm<sup>2</sup>/s) at 20 °C / 68 °F

### Solubility(ies)

#### **Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

#### **Solubility in other solvents**

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

### Other Information

**Metal Corrosivity** Not classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate** No data available

**Aluminum Corrosion Rate** No data available

**Volatile Organic Compounds (VOC) Content** See ingredients information below.

**Bulk density** Not applicable

**Explosive properties** Not classified according to GHS criteria.

**Explosion data** No data available

**Upper explosion limit** No data available

**Lower explosion limit** No data available

**Flammable properties** Not classified as flammable according to GHS criteria.

**Flammability Limit in Air**

**Upper flammability limit:** No data available

**Lower flammability limit:** No data available

**Flash point** No data available

**Method** No information available

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 7 / 20

**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.

## 10. STABILITY AND REACTIVITY

**Reactivity properties**

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

**Chemical stability**

Stable under recommended storage conditions.

**Special dangers of the product**

None reported

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Heat. Evaporation. Extreme temperatures. Contact with acid or acid fumes. Contact with heat, sparks, open flames or other ignition sources.

**Incompatible materials**

Strong oxidizing agents. Strong acids. Strong bases.

**Hazardous Decomposition Products**

Carbon dioxide. Carbon monoxide. Formaldehyde. Sodium oxides. Nitrogen oxides.

**Explosive properties**

Not classified according to GHS criteria.

**Upper explosion limit**

No data available

**Lower explosion limit**

No data available

**Autoignition temperature**

No data available

**Sensitivity to Static Discharge**

No

**Sensitivity to Mechanical Impact**

No

## 11. TOXICOLOGICAL INFORMATION

**NIOSH (RTECS) Number**

None reported

**Information on Likely Routes of Exposure**

**Product Information**

Product does not present an acute toxicity hazard based on

	known or supplied information.
<b>Inhalation</b>	No known effect based on information supplied.
<b>Eye contact</b>	No known effect based on information supplied.
<b>Skin contact</b>	No known effect based on information supplied.
<b>Ingestion</b>	No known effect based on information supplied.
<b>Aggravated Medical Conditions</b>	None known.
<b>Toxicologically synergistic products</b>	None known.
<b>Toxicokinetics, metabolism and distribution</b>	See ingredients information below.

Chemical Name	Toxicokinetics, metabolism and distribution
Formaldehyde (<0.1%) CAS#: 50-00-0	Readily Absorbed via the respiratory and gastrointestinal routes. Absorbed formaldehyde can be oxidized to formate and carbon dioxide. Half-life of formaldehyde is 1 min in rat plasma.
Methyl alcohol (<0.1%) CAS#: 67-56-1	Metabolism of methanol appears to be similar regardless of administrative route. Methanol is converted to formaldehyde, which is converted to formate which is oxidized to carbon dioxide in primates.

**Product Acute Toxicity Data**

<b>Oral Exposure Route</b>	No data available
<b>Dermal Exposure Route</b>	No data available
<b>Inhalation (Dust/Mist) Exposure Route</b>	No data available
<b>Inhalation (Vapor) Exposure Route</b>	No data available
<b>Inhalation (Gas) Exposure Route</b>	No data available

**Ingredient Acute Toxicity Data**

**Oral Exposure Route**

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat LD <sub>50</sub>	100 mg/kg	None reported	None reported	No information available
Methyl alcohol (<0.1%) CAS#: 67-56-1	Human LD <sub>50</sub>	300 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Cuprate(2-), [29H,31H-phthalocya nine-C,C-disulfonato( 4-)-N29,N30,N31,N3 2]-, disodium (<0.1%) CAS#: 1330-38-7	Rat LD <sub>50</sub>	> 5000 mg/kg	None reported	None reported	Vendor SDS
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	Rat LD <sub>50</sub>	5628 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Human LD <sub>Lo</sub>	70 mg/kg	None reported	<b>Kidney, Ureter, or Bladder</b> Other changes <b>Liver</b>	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Human LD <sub>Lo</sub>	143 mg/kg	None reported	<b>Lungs, Thorax, or Respiration</b> Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)



Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Human TD <sub>Lo</sub>	643 mg/kg	None reported	Lungs, Thorax, or Respiration Respiratory obstruction	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Man LD <sub>Lo</sub>	3.571 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Dermal Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rabbit LD <sub>50</sub>	270 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Human LD <sub>50</sub>	1000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	Rabbit LD <sub>50</sub>	15800 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

#### Inhalation (Dust/Mist) Exposure Route

#### Inhalation (Vapor) Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat LC <sub>50</sub>	250 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Human LC <sub>50</sub>	10 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	Rat LC <sub>50</sub>	64000 mg/L	6 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	Human TC <sub>Lo</sub>	300 mg/L	None reported	Lungs, Thorax, or Respiration Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Inhalation (Gas) Exposure Route

No data available

#### Product Skin Corrosion/Irritation Data

No data available.

#### Ingredient Skin Corrosion/Irritation Data

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde	Standard Draize	Human	0.150 mg	72 hours	Corrosive to skin	RTECS (Registry of

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 10 / 20

(<0.1%) CAS#: 50-00-0	Test					Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Standard Draize Test	Rabbit	20 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Formaldehyde (<0.1%) CAS#: 50-00-0	Standard Draize Test	Rabbit	2 mg	24 hours	Corrosive to skin	RTECS (Registry of Toxic Effects of Chemical Substances)

**Product Serious Eye Damage/Eye Irritation Data**

No data available.

**Ingredient Eye Damage/Eye Irritation Data**

<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Formaldehyde (<0.1%) CAS#: 50-00-0	Rinse Test	Human	1 ppm	6 minutes	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Standard Draize Test	Rabbit	40 mg	None reported	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Formaldehyde (<0.1%) CAS#: 50-00-0	Standard Draize Test	Rabbit	0.750 mg	24 hours	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)

**Sensitization Information**

**Product Sensitization Data**

**Skin Sensitization Exposure Route** No data available.

**Respiratory Sensitization Exposure Route** No data available.

**Ingredient Sensitization Data**

**Skin Sensitization Exposure Route**

<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Formaldehyde (<0.1%) CAS#: 50-00-0	Patch test	Human	Confirmed to be a skin sensitizer	ERMA (New Zealand's Environmental Risk Management Authority)

**Respiratory Sensitization Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Formaldehyde (<0.1%) CAS#: 50-00-0	IgE Specific Immune Response Test	Guinea pig	Confirmed to be a respiratory sensitizer	CICAD (Concise International Chemical Assessment Documents)

**Chronic Toxicity Information**

**Product Repeat Dose Toxicity Data**

Product Code(s) 2283656  
 Issue Date 22-Jul-2016  
 Version 4

Product Name Buffer Solution pH 10.01 ± 0.02  
 Revision Date 18-Oct-2016  
 Page 11 / 20

Oral Exposure Route No data available.

Dermal Exposure Route No data available.

Inhalation (Dust/Mist) Exposure Route No data available.

Inhalation (Vapor) Exposure Route No data available.

Inhalation (Gas) Exposure Route No data available.

**Ingredient Repeat Dose Toxicity Data**

Oral Exposure Route

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route

**Inhalation (Vapor) Exposure Route**

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Human TC <sub>Lo</sub>	0.017 mg/L	0.5 days	Eye Lacrimation Lungs, Thorax, or Respiration Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Human TC <sub>Lo</sub>	2 mg/L	40 minutes	Lungs, Thorax, or Respiration Other changes Respiratory depression	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route No data available

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Formaldehyde	50-00-0	A2	Group 1	Known	X
Methyl alcohol	67-56-1	-	-	-	-
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32]-, disodium	1330-38-7	-	-	-	-

**Legend**

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	Does not apply

**Product Carcinogenicity Data** No data available

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Product Code(s) 2283656  
 Issue Date 22-Jul-2016  
 Version 4

Product Name Buffer Solution pH 10.01 ± 0.02  
 Revision Date 18-Oct-2016  
 Page 12 / 20

Inhalation (Gas) Exposure Route No data available

**Ingredient Carcinogenicity Data**

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

**Inhalation (Vapor) Exposure Route**

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat	15 mg/L	78 weeks	Olfaction Tumors	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Gas) Exposure Route No data available

**Product Germ Cell Mutagenicity *invitro* Data**

No data available.

**Ingredient Germ Cell Mutagenicity *invitro* Data**

Chemical Name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	DNA inhibition	Human lymphocyte	300 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Oral Exposure Route No data available

Dermal Exposure Route No data available

Inhalation (Dust/Mist) Exposure Route No data available

Inhalation (Vapor) Exposure Route No data available

Inhalation (Gas) Exposure Route No data available

**Ingredient Germ Cell Mutagenicity *invivo* Data**

**Oral Exposure Route**

Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	DNA damage	Rat	0.405 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	Cytogenetic analysis	Mouse	1000 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Code(s) 2283656  
 Issue Date 22-Jul-2016  
 Version 4

Product Name Buffer Solution pH 10.01 ± 0.02  
 Revision Date 18-Oct-2016  
 Page 13 / 20

**Dermal Exposure Route**

No data available

**Inhalation (Dust/Mist) Exposure Route**

Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	DNA damage	Rat	0.000035 mg/L	8 weeks	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Vapor) Exposure Route**

Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Micronucleus test	Human	.000985 mg/L	8.5 years	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Micronucleus test	Human	2 mg/L	15 minutes	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Gas) Exposure Route**

No data available

**Oral Exposure Route**

No data available

**Dermal Exposure Route**

No data available

**Inhalation (Dust/Mist) Exposure Route**

No data available

**Inhalation (Vapor) Exposure Route**

No data available

**Inhalation (Gas) Exposure Route**

No data available

**Ingredient Reproductive Toxicity Data**

**Oral Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1%) CAS#: 67-56-1	Rat TD <sub>Lo</sub>	4118 mg/kg	10 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death e.g. stunted fetus) <b>Specific Developmental Abnormalities</b> Ear Eye Urogenital System	RTECS (Registry of Toxic Effects of Chemical Substances)

**Dermal Exposure Route**

No data available

**Inhalation (Dust/Mist) Exposure Route**

No data available

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1%)	Rat TC <sub>Lo</sub>	0.0026 mg/L	22 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death)	RTECS (Registry of Toxic Effects of Chemical Substances)

CAS#: 67-56-1				e.g. stunted fetus)	Substances)
---------------	--	--	--	---------------------	-------------

**Inhalation (Vapor) Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat TC <sub>Lo</sub>	40 mg/L	14 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat TC <sub>Lo</sub>	.001 mg/L	24 weeks	<b>Effects on Embryo or Fetus</b> Cytological changes (including somatic cell genetic material)	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1%) CAS#: 67-56-1	Mouse TC <sub>Lo</sub>	1500 mg/L	7-9 days	<b>Specific Developmental Abnormalities</b> Central Nervous System	RTECS (Registry of Toxic Effects of Chemical Substances)
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat TC <sub>Lo</sub>	.0005 mg/L	19 days	<b>Specific Developmental Abnormalities</b> Musculoskeletal system	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Gas) Exposure Route**

No data available

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Based on the classification principles, not classified as hazardous to the environment.

**Product Ecological Data**

**Aquatic toxicity**

**Fish**

No data available

**Crustacea**

No data available

**Algae**

No data available

**Terrestrial toxicity**

**Soil**

No data available

**Vertebrates**

No data available

**Invertebrates**

No data available

**Ingredient Ecological Data**

**Aquatic toxicity**

**Fish**

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	96 hours	<i>Morone saxatilis</i>	LC <sub>50</sub>	6.7 mg/L	PEEN (Pan European Ecological Network)
Methyl alcohol (<0.1%) CAS#: 67-56-1	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	15000 mg/L	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Exposure	Species	Endpoint	Reported	Key literature references and

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 15 / 20

	time		type	dose	sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	96 hours	None reported	LC <sub>50</sub>	52.5 mg/L	PEEN (Pan European Ecological Network)

#### Crustacea

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	48 Hours	<i>Daphnia pulex</i>	EC <sub>50</sub>	5.8 mg/L	PEEN (Pan European Ecological Network)
Methyl alcohol (<0.1%) CAS#: 67-56-1	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub> LC <sub>50</sub>	2500 mg/L	IUCLID (The International Uniform Chemical Information Database)
Cuprate(2-), [29H,31H-phthalocya nine-C,C-disulfonato (4-)-N29,N30,N31,N3 2]-, disodium (<0.1%) CAS#: 1330-38-7	48 Hours	<i>Daphnia pulex</i>	LC <sub>50</sub>	100 mg/L	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	48 hours	<i>Daphnia magna</i>	EC <sub>50</sub>	29 mg/L	PEEN (Pan European Ecological Network)

#### Algae

No data available

#### Terrestrial toxicity

##### Soil

No data available

##### Vertebrates

No data available

##### Invertebrates

No data available

#### Other Information

##### Persistence and degradability

None known.

##### Product Biodegradability Data

If available, see ingredient data below.

##### Ingredient Biodegradability Data

Test data reported below

##### Bioaccumulation

If available, see ingredient data below.

##### Product Bioaccumulation Data

If available, see ingredient data below.

##### Ingredient Bioaccumulation Data

Chemical Name	Test method	Exposure time	Species	Bioconcentration factor	Results
---------------	-------------	---------------	---------	-------------------------	---------

Product Code(s) 2283656  
 Issue Date 22-Jul-2016  
 Version 4

Product Name Buffer Solution pH 10.01 ± 0.02  
 Revision Date 18-Oct-2016  
 Page 16 / 20

				<b>(BCF)</b>	
Formaldehyde (<0.1%) CAS#: 50-00-0	None reported	None reported	None reported	None reported	Does not have the potential to bioaccumulate

**Additional information**

**Product Information**

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

**Ingredient Information**

Chemical Name	Partition Coefficient (n-octanol/water)	Method
Formaldehyde (<0.1%) CAS#: 50-00-0	log K <sub>ow</sub> = 0.35	No information available
Methyl alcohol (<0.1%) CAS#: 67-56-1	log K <sub>ow</sub> = -0.7	No information available
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32]-, disodium (<0.1%) CAS#: 1330-38-7	log K <sub>ow</sub> = 3.86	No information available

**Mobility**

Mobility in soil: High mobility. If available, see ingredient data below.

**Product Information**

**Soil Organic Carbon-Water Partition Coefficient** Not applicable

**Ingredient Information**

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Formaldehyde (<0.1%) CAS#: 50-00-0	log K <sub>oc</sub> = 0.89	No information available
Methyl alcohol (<0.1%) CAS#: 67-56-1	log K <sub>oc</sub> = 0.44	No information available
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32]-, disodium (<0.1%) CAS#: 1330-38-7	log K <sub>oc</sub> = 10.19	No information available

**Additional information**

**Water solubility**

**Product Information**

Water solubility classification	Water solubility	Water Solubility Temperature
Soluble	> 1000 mg/L	25 °C / 77 °F



**Ingredient Information**

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Formaldehyde CAS#: 50-00-0	Completely soluble	> 40000 mg/L	20 °C	68 °F
Methyl alcohol CAS#: 67-56-1	Soluble	> 1000 mg/L	25 °C	77 °F
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29, N30,N31,N32]-, disodium CAS#: 1330-38-7	Moderately soluble	178.88 mg/L	25 °C	77 °F

**Other adverse effects**

Contains a substance with an endocrine-disrupting potential.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal of wastes**

Disposal should be in accordance with applicable regional, national, and local laws and regulations.

**Contaminated packaging**

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 in countries other than the US. Improper disposal or reuse of this container may be dangerous and illegal. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

**US EPA Waste Number**

U122 U154

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Formaldehyde 50-00-0	U122	Included in waste streams: K009, K010, K038, K040, K156, K157	-	U122
Methyl alcohol 67-56-1	-	Included in waste stream: F039	-	U154

**Special instructions for 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. Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

**14. TRANSPORT INFORMATION**

<b>DOT</b>	Not regulated
<b>TDG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG</b>	Not regulated

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 18 / 20

**Note:** No special precautions necessary.

**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 reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

**15. REGULATORY INFORMATION**

**National Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies

**TSCA-** United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL-** Canadian Domestic Substances List/Non-Domestic Substances List

**International Inventories**

**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Complies  
**TCSI** Complies  
**AICS** Complies  
**NZIoC** Complies

**EINECS/ELINCS-** European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS-** Japan Existing and New Chemical Substances

**IECSC-** China Inventory of Existing Chemical Substances

**KECL-** Korean Existing and Evaluated Chemical Substances

**PICCS-** Philippines Inventory of Chemicals and Chemical Substances

**TCSI-** Taiwan Chemical Substances Inventory

**AICS-** Australian Inventory of Chemical Substances

**NZIoC-** New Zealand Inventory of Chemicals

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Formaldehyde (CAS #: 50-00-0)	0.1
Methyl alcohol (CAS #: 67-56-1)	1.0
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)-N29,N30,N31,N32] -, disodium (CAS #: 1330-38-7)	1.0

**SARA 311/312 Hazard Categories**

**Acute health hazard** No  
**Chronic Health Hazard** No  
**Fire hazard** No  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**Product Code(s)** 2283656  
**Issue Date** 22-Jul-2016  
**Version** 4

**Product Name** Buffer Solution pH 10.01 ± 0.02  
**Revision Date** 18-Oct-2016  
**Page** 19 / 20

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Formaldehyde 50-00-0	100 lb	-	-	X
Cuprate(2-), [29H,31H-phthalocyanine -C,C-disulfonato(4-)-N29, N30,N31,N32]-, disodium 1330-38-7	-	X	-	-

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Formaldehyde 50-00-0	100 lb	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ
Methyl alcohol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues**

Chemical Name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Formaldehyde (<0.1%) CAS#: 50-00-0	Release - Toxic (solution)

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Formaldehyde (CAS #: 50-00-0)	Carcinogen
Methyl alcohol (CAS #: 67-56-1)	Developmental

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Formaldehyde 50-00-0	X	X	X
Methyl alcohol 67-56-1	X	X	X
Cuprate(2-), [29H,31H-phthalocyanine-C,C-d isulfonato(4-)-N29,N30,N31,N32 ]-, disodium 1330-38-7	X	-	X

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

Product Code(s) 2283656  
Issue Date 22-Jul-2016  
Version 4

Product Name Buffer Solution pH 10.01 ± 0.02  
Revision Date 18-Oct-2016  
Page 20 / 20

**NFPA and HMIS Classifications**

<b>NFPA</b>	<b>Health hazards - 0</b>	<b>Flammability - 0</b>	<b>Instability - 0</b>	<b>Physical and Chemical Properties -</b>
<b>HMIS</b>	<b>Health hazards - 0</b>	<b>Flammability - 0</b>	<b>Physical hazards - 0</b>	<b>Personal protection - X</b> - See section 8 for more information

**Key or legend to abbreviations and acronyms used in the safety data sheet**

NIOSH IDLH *Immediately Dangerous to Life or Health*  
ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)  
NDF *no data*

**Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

**Prepared By** Hach Product Compliance Department  
**Issue Date** 22-Jul-2016  
**Revision Date** 18-Oct-2016  
**Revision Note** None

**Disclaimer**

**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©2016

**End of Safety Data Sheet**