



Be Right™

SAFETY DATA SHEET

Product Name Buffer Solution pH 10.01 ± 0.02

Issue Date 26-Oct-2022

Revision Date 31-Oct-2022

Version 1.1

1. Identification

Product identifier

Product Name Buffer Solution pH 10.01 ± 0.02

Other names

Product Code(s) 2770220

Synonyms None.

Safety data sheet number M00370

Pure substance/mixture Mixture

Recommended use of the chemical and restrictions on use

Recommended Use Buffer. Water Analysis.

Uses advised against Consumer use.

Manufacturer, importer or supplier name, address and telephone number

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

Taiwan

Emergency Telephone +1(303) 623-5716 - 24 Hour Service

2. Hazard(s) identification

Chemical hazard classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Other hazards

No information available.

3. Composition/information on ingredients

Chemical Family Mixture

Substance
Not applicable.

Mixture

Chemical nature Aqueous alkaline solution.

Chemical name	English chemical name	Formula	CAS No	Percent Range
Disodium carbonate	Disodium carbonate	Na ₂ CO ₃	497-19-8	<1%
Sodium bicarbonate	Sodium bicarbonate	NaHCO ₃	144-55-8	<1%
Formaldehyde	Formaldehyde	CH ₂ O	50-00-0	<0.1%
Methanol	Methanol	CH ₃ OH	67-56-1	<0.1%
Cuprate(2-), [29H,31H-phthalocyanine-C,C-d isulfonato(4-)-N29,N30,N31,N32]-, disodium	Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonato(4-)- N29,N30,N31,N32]-, disodium	C ₃₂ H ₁₄ CuN ₈ O ₆ S ₂ • 2Na	1330-38-7	<0.01%

4. First-aid measures

Different exposure routes and first aid procedures

Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Rinse mouth.
Most important symptoms and effects	No information available.
Self-protection of the first aider	No information available.
Note to physicians	Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media

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

Small Fire
Large Fire

Dry chemical or CO₂.
CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical No information available.

Hazardous combustion products	This material will not burn.
<u>Specific/special fire-fighting measures</u>	Fires need to be assessed to determine appropriate protocols and safety measures for firefighting, including establishing safe zones, extinguishing media to be used, firefighter protection, and actions to control or extinguish the fire.
<u>Special protective equipment for fire-fighters</u>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

6. Accidental release measures

<u>Personal precautions</u>	Ensure adequate ventilation.
Reference to other sections	See section 8 for more information. See section 13 for more information.
For emergency responders	Use personal protection recommended in Section 8.
<u>Environmental precautions</u>	See Section 12 for additional Ecological Information.
<u>Methods for cleaning up</u>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.

7. Handling and storage

<u>Handling</u>	Handle in accordance with good industrial hygiene and safety practice.
<u>Storage</u>	Keep containers tightly closed in a dry, cool and well-ventilated place.
Incompatible materials	None known based on information supplied.

8. Exposure controls/personal protection

<u>Engineering controls</u>	Showers Eyewash stations Ventilation systems.
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Control parameters

Occupational exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical name	Taiwan	ACGIH TLV
Formaldehyde 50-00-0	TWA: 1 ppm TWA: 1.2 mg/m ³ STEL: 2 ppm STEL: 2.4 mg/m ³	STEL: 0.3 ppm TWA: 0.1 ppm

Legend

See section 16 for terms and abbreviations

Biological limit value	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.
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Personal protective equipment

Respiratory protection	Ensure adequate ventilation.
Eye/face protection	No special protective equipment required.
Hand protection	No special protective equipment required.
Skin and body protection	No special protective equipment required.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	clear	Odor	Odorless
Physical state	Liquid	Odor threshold	Not applicable
Color	blue		

Property	Values	Remarks • Method
Molecular weight	Not applicable	
pH	10.0	@ 20 °C
Melting point / freezing point	~ 0 °C / 32 °F	
Initial boiling point and boiling range	~ 100 °C / 212 °F	
Evaporation rate	0.76 (water = 1)	
Vapor pressure	17.477 mm Hg / 2.33 kPa at 20 °C / 68 °F	
Relative vapor density	0.62	
Specific Gravity	0.990	
Partition coefficient	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
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 (mm²/s) at 20 °C / 68 °F	

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Completely soluble	> 10000 mg/L	25 °C / 77 °F

Solubility in other solvents

Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

Steel Corrosion Rate
Aluminum Corrosion Rate

No data available
No data available

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Disodium carbonate	497-19-8	No data available	-
Sodium bicarbonate	144-55-8	No data available	-
Formaldehyde	50-00-0	No data available	X
Methanol	67-56-1	100%	X
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfon ato(4-)-N29,N30,N31,N32]-, disodium	1330-38-7	No data available	-

Explosive properties

Upper explosion limit
Lower explosion limit

Not applicable
Not applicable

Flammable properties

Flash point

No data available

Flammability Limit in Air

Upper flammability limit:
Lower flammability limit:

No data available
No data available

Oxidizing properties

No data available.

Other information

VOC content

0.05455

Bulk density

No information available

10. Stability and reactivity

Stability

Stable under normal conditions.

Reactivity

No information available.

Sensitivity to mechanical impact

None.

Sensitivity to static discharge

None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products Carbon dioxide. Carbon monoxide. Formaldehyde. Sodium oxides. Nitrogen oxides.

11. Toxicological information

Information on likely routes of exposure**Product Information**

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available.

Skin contact Specific test data for the substance or mixture is not available.

Ingestion Specific test data for the substance or mixture is not available.

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity - Product Information

Substance

Test data reported below.

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 ₅₀	100 mg/kg	None reported	None reported	GESTIS
Cuprate(2-), [29H,31H-phthalocya nine-C,C-disulfonato(4-)-N29,N30,N31,N3 2]-, disodium (<0.01%) CAS#: 1330-38-7	Rat LD ₅₀	> 5000 mg/kg	None reported	None reported	Vendor SDS

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 ₅₀	270 mg/kg	None reported	None reported	GESTIS

Inhalation (Dust/Mist) 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 ₅₀	0.578 mg/L	4 hours	None reported	LOLI

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Standard Draize Test	Human	0.150 mg	72 hours	Corrosive to skin	RTECS

Methanol (<0.1%) CAS#: 67-56-1	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method	Rabbit	None reported	20 hours	Not corrosive or irritating to skin	ECHA
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Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rinse Test	Human	1 ppm	6 minutes	Corrosive to eyes	RTECS
Methanol (<0.1%) CAS#: 67-56-1	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method	Rabbit	0.05 mL	24 hours	Not corrosive or irritating to eyes	ECHA

Respiratory or skin sensitization

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Patch test	Human	Confirmed to be a skin sensitizer	ERMA
Methanol (<0.1%) CAS#: 67-56-1	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA

Respiratory Sensitization Exposure Route

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

STOT - single exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

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	Human LD _{Lo}	70 mg/kg	None reported	Gastrointestinal Kidney, Ureter, or Bladder Liver Other changes Ulcerated stomach Other changes	RTECS
Methanol (<0.1%) CAS#: 67-56-1	Human LD _{Lo}	143 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (<0.1%) CAS#: 67-56-1	Human TC _{Lo}	300 mg/L	None reported	Lungs, Thorax, or Respiration Other changes	RTECS

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (<0.1%) CAS#: 67-56-1	Monkey	2340 mg/kg	3 days	None reported	ECHA

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 _{Lo}	0.017 mg/L	0.5 days	Eye Lungs, Thorax, or Respiration Lacrimation Other changes	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Formaldehyde	50-00-0	A1	Group 1	Known	X
Methanol	67-56-1	-	-	-	-

Cuprate(2-), [29H,31H-phthalocyanine- C,C-disulfonato(4-)-N29,N 30,N31,N32]-, disodium	1330-38-7	-	-	-	-
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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	Does not apply

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

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture *invitro* Data

No data available.

Substance *invitro* Data

Test data reported below.

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

Mixture *in vivo* Data

No data available.

Substance *in vivo* Data

Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol (<0.1%) CAS#: 67-56-1	DNA damage	Rat	0.405 mg/kg	None reported	Positive test result for mutagenicity	RTECS

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

Reproductive toxicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Substance

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (<0.1%) CAS#: 67-56-1	Rat TD _{Lo}	4118 mg/kg	10 days	Effects on Embryo or Fetus Specific Developmental Abnormalities Ear Eye Fetotoxicity (except death e.g. stunted fetus) Urogenital System	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (<0.1%) CAS#: 67-56-1	Rat TC _{Lo}	0.0026 mg/L	22 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus)	RTECS

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 TC _{Lo}	40 mg/L	14 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus)	RTECS

Aspiration hazard

Based on available data, the classification criteria are not met.

12. Ecological information

Ecotoxicity

The environmental impact of this product has not been fully investigated.

Unknown aquatic toxicity

1E-05 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

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 ₅₀	6.7 mg/L	PEEN

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 ₅₀	5.8 mg/L	PEEN
Cuprate(2-), [29H,31H-phthalocyanine-C,C-disulfonate(4-)-N29,N30,N31,N32]-, disodium (<0.01%) CAS#: 1330-38-7	48 Hours	<i>Daphnia pulex</i>	LC ₅₀	100 mg/L	ECOSARS

Aquatic Chronic Toxicity

No data available.

Persistence and degradability**Mixture**

No data available.

Bioaccumulation**Mixture**

No data available.

Partition coefficient

No data available

Mobility**Soil Organic Carbon-Water Partition Coefficient**

No data available

Other adverse effects

No information available.

13. Disposal considerations

Disposal methods

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. Do not reuse empty containers.

14. Transport information

DOT

Not regulated

IMDG

Not regulated

IATA

Not regulated

China

Not regulated

Additional information

15. Regulatory information

Regulatory information**National Regulations**

See section 8 for national exposure control parameters

Applicable regulations: No information available

Regulations for the Labeling and Materials Safety Data Sheets for Toxic and Concerned Chemical Substances

Toxic and Concerned Chemical Substances Control Act

Toxic and concerned chemical substances: Formaldehyde

Chemical name	Class	Threshold limits
Formaldehyde	Class 2, Class 3	50 kg TRQ

International Inventories

TCSI	Contact supplier for inventory compliance status.
TSCA	Complies.
DSL/NDL	Complies.
EINECS/ELINCS	Complies.
ENCS	Complies.
IECSC	Complies.
KECL - Existing substances	Complies.
PICCS	Complies.
AICS	Complies.
NZIoC	-.

TCSI - Taiwan Chemical Substance Inventory

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

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

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

ENCS - Japan Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

16. Other information

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

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™

FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Ceiling Limit Value	MAC	Maximum Allowable Concentration
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 26-Oct-2022
Revision Date 31-Oct-2022
Revision Note None
Reference Sources for Section 11 See Section 11: TOXICOLOGICAL INFORMATION

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.

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End of Safety Data Sheet