

SAFETY DATA SHEET

Issue Date 04-Mar-2021

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Revision Date 10-Aug-2021 Version 10.4

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1. IDENTIFICATION

<u>Product identifier</u> Product Name	Buffer Solution Hardness 1 pH 10.1 ± 0.1
Other means of identification Product Code(s)	42453
Safety data sheet number	M00305

Recommended use of the chemical and restrictions on use **Recommended Use** Uses advised against **Restrictions on use**

Laboratory reagent. Hardness determination. Consumer use. For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

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

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word Warning

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Hazard statements H315 - Causes skin irritation H319 - Causes serious eye irritation H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical attention
P362 - Take off contaminated clothing and wash before reuse
P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical attention
P273 - Avoid release to the environment
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards Known

Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Chemical nature

Mixture. aqueous solution.

Chemical name	CAS No	Percent Range	HMRIC #
2-Amino-2-methyl-1-propanol	124-68-5	40 - 50%	-
Acetic acid	64-19-7	<10%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

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.
Specific hazards arising from the chemical	No information available.
Hazardous combustion products	Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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.

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.	
Other Information	Refer to protective measures listed in Sections 7 and 8.	
Environmental precautions		
Environmental precautions	Prevent further leakage or spillage if safe to do so.	
Methods and material for containment and cleaning up		
Methods for containment	Prevent further leakage or spillage if safe to do so.	
Methods for cleaning up	Pick up and transfer to properly labeled containers.	
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.	
Reference to other sections	See section 8 for more information. See section 13 for more information.	

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handlingHandle in accordance with good industrial hygiene and safety practice. Avoid contact with
skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off
contaminated clothing and wash before reuse.Conditions for safe storage, including any incompatibilitiesKeep containers tightly closed in a dry, cool and well-ventilated place.Flammability classClass IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

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

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Acetic acid	STEL: 15 ppm	TWA: 10 ppm	IDLH: 50 ppm
CAS#: 64-19-7	TWA: 10 ppm	TWA: 25 mg/m ³	TWA: 10 ppm
		(vacated) TWA: 10 ppm	TWA: 25 mg/m ³
		(vacated) TWA: 25 mg/m ³	STEL: 15 ppm
		_	STEL: 37 mg/m ³
Appropriate engineering controls			
Engineering Controls	Showers		
0 0	Eyewash stations		
	Ventilation systems.		
	2		
Individual protection measures, suc	h as personal protective equi	pment	
Respiratory protection	No protective equipment is nee		ons. If exposure limits are
	exceeded or irritation is experie		
	breathing apparatus if exposed		, i
	3 11 11 11		
Hand Protection	Wear suitable gloves. Impervice	ous gloves. Gloves must be ins	spected prior to use. The
	selected protective gloves have		
	the standard EN 374 derived fr		
	nitrile rubber category III accor		,
	5,	5	
Eye/face protection	If splashes are likely to occur,	wear safety glasses with side-s	hields.
Skin and body protection	Wear suitable protective clothin	ng. Long sleeved clothing.	
General Hygiene Considerations	Wear suitable gloves and eye/	face protection. Do not eat, drir	nk or smoke when using this
	product. Avoid contact with ski	n, eyes or clothing.	
Environmental exposure controls	Local authorities should be adv		
	allow into any sewer, on the gr	ound or into any body of water.	
Thermal hazards	None under normal processing].	

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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Physical state Appearance Odor	aqueous solution Vinegar	Liquid		Color Odor threshold	yellow No data avai	ilable
Property_			Values			Remarks • Method
Molecular weight	:		No data availat	ble		
рН			10.0			
Melting point/free	zing point		-16 °C / 3.2	°F		
Boiling point / bo	iling range		104 °C / 219	9.2 °F		
Evaporation rate			0.97 (water = 1)		
Vapor pressure			23.027 mm Hg	/ 3.07 kPa at 2	5 °C / 77 °F	
Relative vapor de	ensity		0.6			
Specific gravity (water = 1 / air = 1)		1.033			
Partition Coeffici	ent (n-octanol/wate	er)	Not applicable			
Soil Organic Carl Coefficient	oon-Water Partition	ı	Not applicable			
Autoignition tem	perature		No data availat	ble		
Decomposition te	emperature		No data availat	ble		
Dynamic viscosit	у		No data availat	ble		
Kinematic viscos	ity		No data availat	ble		

Solubility(ies)

Water solubility

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

Solubility in other solvents

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

Other information

Metal Corrosivity

Steel Corrosion Rate Aluminum Corrosion Rate 0.05 mm/yr / 0 in/yr

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
2-Amino-2-methyl-1-propanol	124-68-5	No data available	-
Acetic acid	64-19-7	No data available	Х

Explosive properties

Upper explosion limit Lower explosion limit

Flammable properties

Flash point Method

Flammability Limit in Air Upper flammability limit: Lower flammability limit:

Oxidizing properties

Bulk density

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No data available No data available

> 97 °C / 206.6 °F CC (closed cup)

No data available No data available

No data available.

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None. Sensitivity to Static Discharge None.

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation of respiratory tract.
Eye contact	Irritating to eyes. Causes serious eye irritation.
Skin contact	Causes skin irritation.

Ingestion

Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms

Redness. May cause redness and tearing of the eyes.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (40 - 50%) CAS#: 124-68-5	Rat LD₅₀	2900 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Acetic acid (<10%) CAS#: 64-19-7	Rat LD ₅₀	3310 mg/kg	None reported	None reported	Vendor SDS

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	6,156.00 mg/kg
ATEmix (dermal)	5,307.00 mg/kg
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Acetic acid (<10%) CAS#: 64-19-7	Standard Draize Test	Rabbit	0.050 mg	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)

Serious eye damage/irritation

Classification based on data available for ingredients. Irritating to eyes.

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Respiratory or skin sensitization

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

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

Chemical name	Test method	Species	Results	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (40 - 50%) CAS#: 124-68-5	Buehler Test	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform Chemical Information Database)

STOT - single exposure

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

Product Specific Target Organ Toxicity Single Exposure Data No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data No data available.

STOT - repeated exposure

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

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Carcinogenicity

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

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
2-Amino-2-methyl-1-propa	124-68-5	-	-	-	-
nol					
Acetic acid	64-19-7	-	-	-	-

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	Does not apply
Labor)	

Germ cell mutagenicity

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

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (40 - 50%) CAS#: 124-68-5	Mutation in microorganisms	Salmonella typhimurium	5 mg/plate	None reported	Negative test result for mutagenicity	ECHA (The European Chemicals Agency)

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

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

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (40 - 50%) CAS#: 124-68-5	Rat NOAEL	300 mg/kg	15 days	No reproductive or developmental toxic effects observed	ECHA (The European Chemicals Agency)

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity No data available.

Aquatic Chronic Toxicity No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

No data available.

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Acetic acid (<10%)	96 hours	Pimephales promelas	LC ₅₀	79 mg/L	GESTIS (Information System on Hazardous Substances of the

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CAS#: 64-19-7					German Social Accident Insurance)
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
2-Amino-2-methyl-1-p ropanol (40 - 50%) CAS#: 124-68-5	48 Hours	Daphina magna	EC50	65 mg/L	ECHA (The European Chemicals Agency)
Acetic acid (<10%) CAS#: 64-19-7	48 Hours	None reported	LC ₅₀	90.1 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data No data available.

Bioaccumulation There is no data for this product **Product Bioaccumulation Data** No data available.

Partition Coefficient (n-octanol/water)

Mobility

Soil Organic Carbon-Water Partition Coefficient

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused Dispose of in accordance with local regulations. Dispose of waste in accordance with products environmental legislation. **Contaminated packaging** Do not reuse empty containers.

Not applicable

US EPA Waste Number

Special instructions for disposal

Dilute to 3 to 5 times the volume with cold water. 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. Allow cold water to run for 5 minutes to completely flush the system. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this article.

14. TRANSPORT INFORMATION				
DOT	Not regulated			
TDG	Not regulated			

Not applicable

Not applicable

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IATA	Not regulated
IMDG	Not regulated
Note:	No special precautions necessary.
Additional information	

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 - Existing substances	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

SARA 311/312 Hazard Categories

Acute health hazard	Yes
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)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid 64-19-7	5000 lb	-	-	Х

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)
	Acetic acid	5000 lb	-	RQ 5000 lb final RQ
	64-19-7			RQ 2270 kg final RQ
U.S Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues				

U.S. - DEA (Drug Enforcement Administration) List I & List II

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
2-Amino-2-methyl-1-propanol	Х	Х	Х
124-68-5			
Acetic acid	Х	Х	Х
64-19-7			

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Acetic acid	180.0551	21 CFR 184.1005

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

Special Comments
None

Additional information

Global Automotive Declarable Substance List (GADSL) Not applicable NFPA and HMIS Classifications

NFPA	Health hazards - 2	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - I

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

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Product Code(s) 42453 Issue Date 04-Mar-2021 Version 10.4			Buffer Solution Hardness 1 pH 10.1 ± 0.1 10-Aug-2021	
TWA	TWA (time-weight	ed average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowat	le Concentration	Ceiling	Ceiling Limit Value
Х	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* RSP+ C M	Skin designation Respiratory sensit Carcinogen mutagen	ization	SKN+ ** R	Skin sensitization Hazard Designation Reproductive toxicant
Prepared By		Hach Product Compliand	ce Department	
Issue Date		04-Mar-2021		
Revision Date		10-Aug-2021		
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.

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End of Safety Data Sheet