

SAFETY DATA SHEET

Issue Date 03-Aug-2020

Revision Date 23-Nov-2021

Version 2.2

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1. IDENTIFICATION

Product identifier

Product Name

Acetate Buffer Solution, pH 4.0

Other means of identification

Product Code(s)

1490953

Safety data sheet number

M00683

Recommended use of the chemical and restrictions on use

Recommended Use

Buffer.

Uses advised against

None.

Restrictions on use

For Research and Development 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)

Serious eye damage/eye irritation

Category 2A

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Warning



Hazard statements

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H319 - Causes serious eye irritation

Precautionary statements

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

Other Hazards Known

Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC#
Acetic acid	64-19-7	40 - 50%	-
Sodium acetate	127-09-3	20 - 30%	-

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.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and

persists.

Skin contact

Wash skin with soap and water.

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.

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Unsuitable Extinguishing Media

Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

No information available.

chemical

Hazardous combustion products Carbon monoxide, Carbon dioxide. This material will not burn.

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. Use personal protective equipment as required.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions 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.

Methods for cleaning up 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.

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 handling Handle 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.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Acetic acid	STEL: 15 ppm	TWA: 10 ppm TWA: 25 mg/m ³	IDLH: 50 ppm TWA: 10 ppm
CAS#: 64-19-7	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

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection

Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN

374-1:2016.

Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection

Wear suitable protective clothing. Wash contaminated clothing before reuse.

General Hygiene Considerations

Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product.

Environmental exposure controls

Local authorities should be advised if significant spillages cannot be contained. Do not

allow into any sewer, on the ground or into any body of water.

Thermal hazards

None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state

Liquid

Appearance

aqueous solution

Color

colorless

Odor

pΗ

Vinegar

Odor threshold

No data available

Property

Values

Remarks • Method

Molecular weight

4.0

@ 20 °C

Melting point/freezing point

~ -6 °C / 21.2 °F

No data available

Boiling point / boiling range

102 °C / 215.6 °F

Evaporation rate

0.76 (water = 1)

Vapor pressure

3 mm Hg / 0.4 kPa at 25 °C / 77 °F

Relative vapor density

1

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Specific gravity (water = 1 / air = 1)

1.130

Partition Coefficient (n-octanol/water)

Not applicable

Soil Organic Carbon-Water Partition

Not applicable

Coefficient

Not applicable

Autoignition temperature

No data available

Decomposition temperature

No data available

Dynamic viscosity

No data available

Kinematic viscosity

No data available

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 1.02 mm/yr / 0.04 in/yr 0.28 mm/yr / 0.01 in/yr

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Acetic acid	64-19-7	No data available	X
Sodium acetate	127-09-3	No data available	X

Explosive properties

Upper explosion limit Lower explosion limit No data available No data available

Flammable properties

Flash point Method > 94 °C / 201.2 °F

CC (closed cup)

Flammability Limit in Air

Upper flammability limit: Lower flammability limit:

No data available No data available

Oxidizing properties

No data available.

Bulk density

No data available

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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 oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation of respiratory tract.

Eye contact Causes serious eye irritation. May cause redness, itching, and pain.

Skin contact May cause irritation. Prolonged contact may cause redness and irritation.

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

Symptoms 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

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
Chemical name	type	dose	time	_ ,	sources for data
	Lype	4000		<u> </u>	<u> </u>

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Acetic acid (40 - 50%) CAS#: 64-19-7	Rat LD50	3310 mg/kg	None reported	None reported	Vendor SDS
Sodium acetate (20 - 30%) CAS#: 127-09-3	Rat LD50	3530 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium acetate (20 - 30%) CAS#: 127-09-3	Rat LC50	> 7.5 mg/L	4 hours	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)	5,277.40 mg/kg
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	34.90 mg/l
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

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

Product Skin Corrosion/Irritation Data

No data available.

Key literature references and sources for data Outside testing

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Acetic acid (40 - 50%) CAS#: 64-19-7	Standard Draize Test	Rabbit	0.050 mg	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)
Sodium acetate (20 - 30%) CAS#: 127-09-3	Standard Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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

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

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

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.

Ob suring I name	CAS No	ACGIH	IARC	NTP	OSHA
Chemical name Acetic acid	64-19-7		_	-	-
Sodium acetate	127-09-3	-	-	_	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
ACGIH (American Comerence of Several on Concor)	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)	
Lubo.)	

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.

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

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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.

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

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

0 % of the mixture consists of component(s) of unknown hazards to the aquatic Unknown aquatic toxicity

environment.

Product Ecological Data

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Acetic acid (40 - 50%) CAS#: 64-19-7	96 hours	Pimephales promelas	LC50	79 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Acetic acid (40 - 50%) CAS#: 64-19-7	48 Hours	None reported	LC50	90.1 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Sodium acetate (20 - 30%) CAS#: 127-09-3	48 Hours	Daphnia magna	EC50	>= 1000 mg/L	Vendor SDS

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

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No data available.

Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water)

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

products

Dispose of in accordance with local regulations. Dispose of waste in accordance with

environmental legislation.

Contaminated packaging

Do not reuse empty containers.

Special instructions for disposal

If permitted by regulation. Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the reacted material to the drain. Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

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 DSL/NDSL Complies Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

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

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	Yes
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	-	-	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 na	ne Hazardous S	Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Acetic acid	5	000 lb	-	RQ 5000 lb final RQ
64-19-7				RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Acetic acid	X	X	X

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U.S. EPA Label Information

Chemical name	FIFRA	FDA
Acetic acid	180.0551	21 CFR 184.1005
Sodium acetate	180.0950	21 CFR 182.70,21 CFR 184.1721

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 NDF

ACGIH (American Conference of Governmental Industrial Hygienists)

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

Χ

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

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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.

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End of Safety Data Sheet

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