

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: pH 4.01 Buffer

Product Number: 35653-01

Other Identifying Product Numbers:

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company: Cole-Parmer Instrument Company

Address: 625 EAST BUNKER COURT

VERNON HILLS, IL 60061 USA

Telephone: 800-323-9340

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements:	Precautionary Statements:
Reproductive Toxicity	Category 1	H360	P201, P202, P280, P308+P313, P405, P501

2.2. GHS Label Elements

Pictograms:



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Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H360	May damage fertility or the unborn child.

Precautionary Statements:

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P280	Wear protective gloves and eye protection.
P308+P313	IF exposed or concerned: Get medical attention.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Water	H ₂ O	18.01 g/mol	7732-18-5	98.58
Potassium Acid Phthalate	HOCOC ₆ H ₄ COOK	204.22 g/mol	877-24-7	1.02
Methyl Alcohol	CH ₃ OH	32.04 g/mol	67-56-1	0.39
Butylparaben	C ₁₁ H ₁₄ O ₃	194.22 g/mol	94-26-8	< 0.1
Proprietary	Proprietary	Data not available.	Proprietary	< 0.1
Hydrochloric Acid	HCl	36.46 g/mol	7647-01-0	< 0.1

SECTION 4: First-Aid Measures

4.1. General First Aid Information

Eye Contact: May cause slight irritation.

Inhalation: Not expected to require first aid. If necessary, remove to fresh air.

Skin Contact: May cause slight irritation.

Ingestion: Dilute with water or milk. Call a physician if necessary.

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4.2. Most Important Symptoms and Effects, Acute and Delayed

May damage fertility or the unborn child. Does not present any significant health hazards. Wash areas of contact with water. EYE CONTACT: May cause slight irritation. SKIN CONTACT: May cause slight irritation.

4.3. Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Call a physician if irritation develops. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Flush with plenty of water for at least 15 minutes. Call a physician if irritation develops. Diarrhea: Flush with water or milk. Call a physician if necessary.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

Use any means suitable for extinguishing surrounding fire.

5.2. Specific Hazards Arising from the Substance or Mixture

Not considered to be a fire or explosion hazard.

5.3. Special Protective Equipment for Firefighters

Use protective clothing and breathing equipment appropriate for the surrounding fire.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Absorb with suitable material and dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage.

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SECTION 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Methyl Alcohol (67-56-1)	TLV-STEL	USA	"250 ppm STEL" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TWA	USA	"200 ppm TWA; 260 mg/m ³ TWA" As Methyl alcohol [67-56-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Methyl Alcohol (67-56-1)	TLV-TWA	USA	"200 ppm TWA" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TWA	USA	"200 ppm TWA; 260 mg/m ³ TWA" As Methyl alcohol [67-56-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
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Methyl Alcohol (67-56-1)	TLV-TWA	USA	200 ppm TWA	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	250 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TLV-TWA	USA	"200 ppm TWA" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)
Methyl Alcohol (67-56-1)	TLV-STEL	USA	"250 ppm STEL" As Methanol [67-56-1]	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Methyl Alcohol (67-56-1)	TWA	USA	"200 ppm TWA; 260 mg/m ³ TWA" As Methyl alcohol [67-56-1]	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)

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Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)
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Hydrochloric Acid (7647-01-0)	PEL-Ceiling	USA	"5 ppm Ceiling; 7 mg/m ³ Ceiling" As Hydrogen chloride [7647-01-0]	U.S. - OSHA - Final PELs - Ceiling Limits
Hydrochloric Acid (7647-01-0)	TLV-Ceiling	USA	"2 ppm Ceiling" As Hydrogen chloride [7647-01-0]	ACGIH - Threshold Limit Values - Ceilings (TLV-C)

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8.2. Exposure Controls

Engineering Controls: No specific controls are needed. Normal room ventilation is adequate.

Respiratory Protection: Normal room ventilation is adequate.

Skin Protection: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. Chemical resistant gloves. Safety glasses or goggles.

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Red liquid

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: 4.01

Melting/Freezing Point: Data not available.

Initial Boiling Point/Range: Data not available.

Flash Point: Data not available.

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.0

Solubility: Miscible

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: Data not available.

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SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Nitric Acid

10.4. Hazardous Decomposition Products

Will not occur.

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: >3200 mg/kg (Potassium Acid Phthalate), details of toxic effects not reported other than lethal dose value. LD50, Oral, Rat: (FD&C Red #40) >10,000 mg/Kg, details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Not applicable.

Serious Eye Damage and Irritation:

Not applicable.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Not applicable.

Carcinogenicity:

Not applicable.

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Reproductive Toxicity:

May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.

Specific Target Organ Toxicity from Repeated Exposure:

Not applicable.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Not applicable.

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in Soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.



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SECTION 14: Transportation Information

14.1. Transportation by Land-Department of Transportation (DOT, United States of America)

Not regulated according to DOT Regulations.

14.2. Transportation by Air - International Air Transport Association (IATA)

Not regulated according to IATA Dangerous Goods Regulations.

14.3 Transportation of Dangerous Goods (TDG, Canada)

Not regulated according to TDG Regulations.



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SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

15.2. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Hydrochloric Acid (CAS # 7647-01-0): "500 lb TPQ (gas only)" As Hydrogen chloride [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): "5000 lb EPCRA RQ (gas only)" As Hydrogen chloride [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): 500 lb TPQ (gas only)

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb EPCRA RQ (gas only)

15.3. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Methyl Alcohol (CAS # 67-56-1): "5000 lb final RQ

Methyl Alcohol (CAS # 67-56-1): 2270 kg final RQ

Methyl Alcohol (CAS # 67-56-1): 2270 kg final RQ" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): 5000 lb final RQ

Hydrochloric Acid (CAS # 7647-01-0): "5000 lb final RQ

Hydrochloric Acid (CAS # 7647-01-0): 2270 kg final RQ

Hydrochloric Acid (CAS # 7647-01-0): 2270 kg final RQ" As Hydrochloric acid [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): 5000 lb final RQ

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Methyl Alcohol (CAS # 67-56-1): "1.0 % de minimis concentration" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): 1.0 % de minimis concentration

Hydrochloric Acid (CAS # 7647-01-0): "1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of a particle size)" As Hydrochloric acid [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): 1.0 % de minimis concentration (acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size)

15.5. Massachusetts Right-to-Know Substance List

Methyl Alcohol (CAS # 67-56-1): "Present" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): Present

Hydrochloric Acid (CAS # 7647-01-0): "Extraordinarily hazardous" As Hydrochloric acid [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): Extraordinarily hazardous

15.6. Pennsylvania Right-to-Know Hazardous Substances

Methyl Alcohol (CAS # 67-56-1): "Environmental hazard" As Methanol [67-56-1]

Methyl Alcohol (CAS # 67-56-1): "Present" As Denatured alcohols [RR-00113-8]

Methyl Alcohol (CAS # 67-56-1): Environmental hazard

Hydrochloric Acid (CAS # 7647-01-0): "Environmental hazard" As Hydrochloric acid [7647-01-0]

Hydrochloric Acid (CAS # 7647-01-0): Environmental hazard

Water (CAS # 7732-18-5): "Present" As Ethyl alcohol and water [RR-00802-6]

Water (CAS # 7732-18-5): Present



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15.7. New Jersey Worker and Community Right-to-Know Components

Methyl Alcohol (CAS # 67-56-1): "flammable - third degree"
Methyl Alcohol (CAS # 67-56-1): "SN 1222 500 lb TPQ" As Methanol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): "sn 1222" As Methyl alcohol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): flammable - third degree
Methyl Alcohol (CAS # 67-56-1): sn 1222
Methyl Alcohol (CAS # 67-56-1): SN 1222 500 lb TPQ
Methyl Alcohol (CAS # 67-56-1): teratogen
Methyl Alcohol (CAS # 67-56-1): teratogen" As Methyl alcohol [67-56-1]
Hydrochloric Acid (CAS # 7647-01-0): "corrosive" As Hydrogen chloride [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): "SN 1012 500 lb TPQ"
Hydrochloric Acid (CAS # 7647-01-0): "sn 1012" As Hydrogen chloride [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): corrosive
Hydrochloric Acid (CAS # 7647-01-0): sn 1012
Hydrochloric Acid (CAS # 7647-01-0): SN 1012 500 lb TPQ
Hydrochloric Acid (CAS # 7647-01-0): SN 2909 500 lb TPQ (gas only)
Hydrochloric Acid (CAS # 7647-01-0): SN 2909 500 lb TPQ (gas only)" As Hydrogen chloride [7647-01-0]

15.8. California Proposition 65

Methyl Alcohol (CAS # 67-56-1): "developmental toxicity, 3/16/2012" As Methanol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): developmental toxicity, 3/16/2012

15.9. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Methyl Alcohol (CAS # 67-56-1): "Present" As Alcohols, C1-3 [68475-56-9] (NDSL)
Methyl Alcohol (CAS # 67-56-1): "Present" As Methyl alcohol [67-56-1] (DSL)
Methyl Alcohol (CAS # 67-56-1): Present (DSL)
Methyl Alcohol (CAS # 67-56-1): Present (NDSL)
Hydrochloric Acid (CAS # 7647-01-0): "Present" As Hydrogen chloride [7647-01-0] (DSL)
Hydrochloric Acid (CAS # 7647-01-0): Present (DSL)
Water (CAS # 7732-18-5): "Present" As Water [7732-18-5] (DSL)
Water (CAS # 7732-18-5): Present (DSL)
Potassium Acid Phthalate (CAS # 877-24-7): Present (DSL)
Butylparaben (CAS # 94-26-8): "Present" As Benzoic acid, 4-hydroxy-, butyl ester [94-26-8] (DSL)
Butylparaben (CAS # 94-26-8): Present (DSL)

15.10. United States of America Toxic Substances Control Act (TSCA) List

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

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Methyl Alcohol (CAS # 67-56-1): "Present (ACTIVE)" As Methanol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): Present (ACTIVE)
Hydrochloric Acid (CAS # 7647-01-0): "Present (ACTIVE)" As Hydrochloric acid [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): Present (ACTIVE)
Water (CAS # 7732-18-5): "Present [XU] (ACTIVE)" As Water [7732-18-5]
Water (CAS # 7732-18-5): Present [XU] (ACTIVE)
Potassium Acid Phthalate (CAS # 877-24-7): Present (ACTIVE)
Butylparaben (CAS # 94-26-8): "Present (ACTIVE)" As Benzoic acid, 4-hydroxy-, butyl ester [94-26-8]
Butylparaben (CAS # 94-26-8): Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Methyl Alcohol (CAS # 67-56-1): "200-659-6" As Methanol [67-56-1]
Methyl Alcohol (CAS # 67-56-1): 200-659-6
Methyl Alcohol (CAS # 67-56-1): 270-649-4
Hydrochloric Acid (CAS # 7647-01-0): "231-595-7" As Hydrogen chloride [7647-01-0]
Hydrochloric Acid (CAS # 7647-01-0): 231-595-7
Water (CAS # 7732-18-5): "231-791-2" As Water [7732-18-5]
Water (CAS # 7732-18-5): 231-791-2
Potassium Acid Phthalate (CAS # 877-24-7): 212-889-4
Butylparaben (CAS # 94-26-8): "202-318-7" As Butyl 4-hydroxybenzoate [94-26-8]
Butylparaben (CAS # 94-26-8): 202-318-7

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

May damage fertility or the unborn child.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection.

IF exposed or concerned: Get medical attention.

Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

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16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

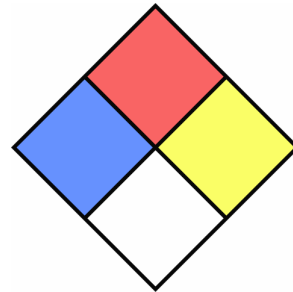
16.3. National Fire Protection Association (NFPA) Rating

Health:

Flammability:

Reactivity:

Special Hazard:



16.4. Document Revision

Last Revision Date: 2025-04-02

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and COLE-PARMER INSTRUMENT COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.