

Buffer pH 4**SECTION 1. IDENTIFICATION**

Product Identifier	Buffer pH 4
Other Means of Identification	None
Product Code(s)	BU1400
Product Family	Inorganic solution
Recommended Use	Laboratory.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0825

SECTION 2. HAZARD IDENTIFICATION**Classification**

Not classified under any hazard class.

Label Elements

Not applicable

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture:

Chemical Name	CAS No.	%	Other Identifiers
Water	7732-18-5	<98 - 99	Dihydrogen Oxide
1,2-Benzenedicarboxylic acid, monopotassium salt	877-24-7	<1 - 1.02	Potassium hydrogen phthalate
Sodium hydroxide	1310-73-2	<1	Sodium Hydrate, Caustic Soda
Acetic acid (solutions greater than 10%)	64-19-7	0.99	Ethanoic acid, Methanecarboxylic acid
Sodium acetate	127-09-3	0.49	Acetic acid, sodium salt
Formaldehyde solution	50-00-0	<0.05 - 0.20	Formaldehyde
Methanol	67-56-1	0.02	Methyl Alcohol
Hydrochloric acid	7647-01-0	<0.05	Dihydrogen Chloride
Thymol	89-83-8	<0.01	2-Isopropyl-5-methylphenol, m-Thymol

SECTION 4. FIRST-AID MEASURES**First-aid Measures**

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Inhalation

Remove source of exposure or move to fresh air. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor.

Skin Contact

Immediately rinse skin with lukewarm, gently flowing water for at least 30 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. If exposed or concerned, get medical advice or attention.

Most Important Symptoms and Effects, Acute and Delayed

None known.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Not combustible. Use extinguishing agent suitable for surrounding fire. Use flooding quantities of water spray or fog. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Does not burn. Heating increases the release of toxic vapour.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Approach fire from upwind to avoid hazardous vapours or gases. Knock down vapours or gases with water fog or fine water spray. Dike and recover contaminated water for appropriate disposal.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

No special precautions are necessary. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental Precautions

No special precautions are necessary. It is good practice to prevent releases into the environment.

Methods and Materials for Containment and Cleaning Up

Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

No special handling precautions are necessary. Wear personal protective equipment to avoid direct contact with this

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chemical. Only use where there is adequate ventilation. Avoid generating vapours or mists. Prevent accidental contact with incompatible chemicals.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, separate from incompatible materials (see Section 10: Stability and Reactivity).

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Formaldehyde solution		0.3 ppm	0.75 ppm			
Sodium hydroxide		2 mg/m3	2 mg/m3			
Water	Not established		Not established			
Methanol	200 ppm	250 ppm				
Hydrochloric acid		2 ppm A4		5 ppm		
Thymol	Not established		Not established			
Acetic acid (solutions greater than 10%)	10 ppm	15 ppm	10 ppm			
Sodium acetate	Not established		Not established			

Appropriate Engineering Controls

The hazard potential of this product is relatively low. General ventilation is usually adequate. Provide eyewash and safety shower if contact or splash hazard exists.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Respiratory Protection

Not normally required if product is used as directed.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Odourless
Odour Threshold	Not available
pH	4.00 - 4.01
Melting Point/Freezing Point	0 °C (32 °F) (melting); 0 °C (32 °F) (freezing)
Initial Boiling Point/Range	100 - 105 °C (212 - 221 °F)
Flash Point	Not applicable
Evaporation Rate	Not available
Flammability (solid, gas)	Not applicable
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	Not available

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Relative Density (water = 1)	~ 1.0
Solubility	Soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Excess heat.

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid).

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
1,2-Benzenedicarboxylic acid, monopotassium salt	Not available	> 3200 mg/kg (rat)	> 1 g/kg (rat)
Formaldehyde solution	368 ppm (male mouse) (4-hour exposure)	800 mg/kg (male rat)	~ 300 mg/kg (rabbit)
Sodium hydroxide	Not available	Not available	1350 mg/kg (rabbit)
Water	Not available	> 89840 mg/kg (rat)	Not available
Methanol	64,000 ppm (rat) (4-hour exposure)	5,628 mg/kg (rat)	15,800 mg/kg (rabbit)
Hydrochloric acid	1405 ppm (male rat) (4-hour exposure)	700 mg/kg (rat)	> 5010 mg/kg (rabbit)
Thymol	Not available	980 mg/kg (rat)	> 2000 mg/kg (rat)
Acetic acid (solutions greater than 10%)	4653 ppm (rat) (4-hour exposure)	3530 mg/kg	1060 mg/kg (rabbit)
Sodium acetate	> 30 mg/L (rat)	6900 mg/L (mouse)	> 10000 mg/kg (rabbit)

Skin Corrosion/Irritation

May cause mild irritation based on information for closely related chemicals.

Serious Eye Damage/Irritation

May cause mild irritation based on information for closely related chemicals.

STOT (Specific Target Organ Toxicity) - Single Exposure**Inhalation**

May cause nose and throat irritation.

Ingestion

No information was located.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
1,2-Benzenedicarboxylic acid, monopotassium salt	Not Listed	Not Listed	Not Listed	Not Listed
Formaldehyde solution	Group 1		Known carcinogen	
Sodium hydroxide	Not Listed	Not Listed	Not Listed	Not Listed
Water	Not Listed	Not Listed	Not Listed	Not Listed
Methanol	Group 2B	A3		
Hydrochloric acid	Group 3	A4	Not Listed	
Thymol	Not evaluated	Not Listed	Not Listed	
Acetic acid (solutions greater than 10%)	Not Listed	Not Listed	Not Listed	Not Listed
Sodium acetate	Not evaluated	Not Listed	Not Listed	

Key to Abbreviations

Group 1 = Carcinogenic to humans.

Group 2B = Possibly carcinogenic to humans.

Group 3 = Not classifiable as to its carcinogenicity to humans.

A3 = Animal carcinogen.

A4 = Not classifiable as a human carcinogen.

Reproductive Toxicity**Development of Offspring**

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

Date of Preparation December 12, 2016

Date of Last Revision December 12, 2016

Revision Indicators The following SDS content was changed on December 12, 2016:
Section 11 - Toxicological Information; LC50/LD50 values.

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.