Buffer pH 2

SECTION 1. IDENTIFICATION

Product Identifier	Buffer pH 2
Other Means of Identification	None
Product Code(s)	BU1200
Product Family	Inorganic solution
Recommended Use	Laboratory and industrial use.
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.	0311

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	99.43	Dihydrogen Oxide
Potassium chloride	7447-40-7	0.4	Potassium Muriate
Hydrochloric acid	7647-01-0	0.1	Hydrogen Chloride
Formaldehyde solution	50-00-0	0.05	Formalin
Methanol	67-56-1	0.02	Methyl Alcohol

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Move to fresh air. Keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms (e.g. coughing, shortness of breath, wheezing), call a Poison Centre or doctor.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. If skin irritation occurs, get medical advice or attention.

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

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water. 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

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog.

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

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

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases.
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

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

Do not allow into any sewer, on the ground or into any waterway.

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

Wear personal protective equipment to avoid direct contact with this chemical. Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Do not breathe in this product. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

No special requirements for storage area. Store in an area that is: cool, dry, well-ventilated.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

	ACGIH TLV®		OSHA PEL		AIHA WEEL	
Chemical Name	**TWA**	**STEL**	**TWA**	**Ceiling**	**8-hr TWA**	**TWA**
Water	Not established		Not established			
Potassium chloride	Not established		Not established			
Hydrochloric acid		2 ppm A4		5 ppm		
Formaldehyde solution		0.3 ppm	0.75 ppm			
Methanol	200 ppm	250 ppm				

ACGIH® = American Conference of Governmental Industrial Hygienists.
TWA = Time-Weighted Average. STEL = Short-term Exposure Limit. C = Ceiling limit. A4 = Not classifiable as a human carcinogen.
OSHA = US Occupational Safety and Health Administration.
PEL = Permissible Exposure Limits. STEL = Short-term Exposure Limit.

Appropriate Engineering Controls

General ventilation is usually adequate. Do not allow product to accumulate in the air in work or storage areas, or in confined spaces. Use local exhaust ventilation and enclosure, if necessary, to control amount in the air.

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.
No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

Respiratory Protection

Not usually required when working with small quantities. Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Odourless
Odour Threshold	Not available
pH	2.00
Melting Point/Freezing Point	0 °C (32 °F) (melting); 0 °C (32 °F) (freezing)
Initial Boiling Point/Range	100 °C (212 °F)
Flash Point	Not available
Evaporation Rate	1.0
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	Not available
Vapour Density (air = 1)	0.7
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

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Excess heat.

Incompatible Materials

None known.

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)
Water	Not available	> 89840 mg/kg (rat)	Not available
Potassium chloride		~ 2430 mg/kg (rat)	
Hydrochloric acid	1405 ppm (male rat) (4-hour exposure)	700 mg/kg (rat)	> 5010 mg/kg (rabbit)
Formaldehyde solution	368 ppm (male mouse) (4-hour exposure)	800 mg/kg (male rat)	~ 300 mg/kg (rabbit)
Methanol	64,000 ppm (rat) (4-hour exposure)	5,628 mg/kg (rat)	15,800 mg/kg (rabbit)

LC50: No information was located.

LD50 (oral): No information was located.

LD50 (dermal): No information was located.

Skin Corrosion/Irritation

No information was located.

Serious Eye Damage/Irritation

No information was located.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

No information was located.

Skin Absorption

No information was located.

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
Water	Not Listed	Not Listed	Not Listed	Not Listed
Potassium chloride	Not Listed	Not Listed		
Hydrochloric acid	Group 3	A4	Not Listed	
Formaldehyde solution	Group 1		Known carcinogen	
Methanol	Group 2B	A3		

Key to Abbreviations

Group 1 = Carcinogenic to humans.
Group 3 = Not classifiable as to its carcinogenicity to humans.
Group 2B = Possibly carcinogenic to humans.
A4 = Not classifiable as a human carcinogen.
A3 = Animal 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.

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. Not regulated under IATA 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)

All ingredients are listed on the DSL/NDSL.

USA

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

All ingredients are listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

SDS Prepared By	Alphachem Limited
Phone No.	(905)-821-2995
Date of Preparation	January 14, 2016
Date of Last Revision	January 14, 2016
Revision Indicators	The following SDS content was changed on January 21, 2016: Section 11 - Toxicological Information; LC50/LD50 values.
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