

Safety Data Sheet

Buffer Solution pH 12



Section 1

Product Description

Product Name: Buffer Solution pH 12
Recommended Use: Science education applications
Synonyms: None known
Supplier: C2A Sales & Supplies (Barbados) Ltd.
#3 Canewood Road, Jackson, St. Michael, Barbados
Tel: (246) 426-1256

Section 2

Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER



Causes skin irritation. Causes serious eye irritation. May damage fertility or the unborn child.

GHS Classification:

Reproductive Toxicity Category 1B, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A

Other Safety Precautions: IF exposed or concerned: Get medical advice/attention.

Section 3

Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	98.71
Boric Acid	10043-35-3	0.51
Potassium Chloride	7447-40-7	0.4
Sodium Hydroxide	1310-73-2	0.38

Section 4

First Aid Measures

Emergency and First Aid Procedures

Inhalation: In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin Contact: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5

Firefighting Procedures

Extinguishing Media: Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection: Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards: Fire or excessive heat may produce hazardous decomposition products.
Hazardous Combustion Products: Boron Compounds, Phosphorus compounds

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Section 6

Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:

Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill.

Environmental Precautions: Methods for Clean-up

Avoid breathing material. Avoid contact with skin and eyes.
Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.

Section 7

Handling and Storage

Handling:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid contact with skin and eyes.

Storage:

Store locked up. Keep container tightly closed in a cool, well-ventilated place.

Storage Code:

Green - general chemical storage

Section 8

Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Boric Acid	2 mg/m ³ TWA (inhalable fraction, listed under Borate compounds, inorganic)	6 mg/m ³ STEL (inhalable fraction, listed under Borate compounds, inorganic)	N/A	N/A
Potassium Chloride	N/A	N/A	N/A	N/A
Sodium Hydroxide	N/A	N/A	2 mg/m ³ TWA	N/A

Control Parameters

Engineering Measures:

No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.

Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

Respiratory Protection:

No respiratory protection required under normal conditions of use.

Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

Skin Protection:

Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

Gloves:

No information available

Section 9

Physical Data

Formula: See Section 3

Molecular Weight: No data available

Appearance: Colorless Liquid

Odor: None

Odor Threshold: No data available

pH: 12

Melting Point: Estimated 0 C

Boiling Point: 100 C

Flash Point: No data available

Flammable Limits in Air: No data available

Vapor Pressure: No data available

Evaporation Rate (BuAc=1): No data available

Vapor Density (Air=1): No data available

Specific Gravity: Approx. 1

Solubility in Water: Soluble

Log Pow (calculated): No data available

Autoignition Temperature: No data available

Decomposition Temperature: No data available

Viscosity: No data available

Percent Volatile by Volume: No data available

Section 10

Reactivity Data

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Reactivity: Not generally reactive under normal conditions.
Chemical Stability: Stable under normal conditions.
Conditions to Avoid: None known.
Incompatible Materials: Water-reactive materials, Acids
Hazardous Decomposition Products: Phosphorus compounds, Boron Compounds
Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Routes of Entry: Ingestion, skin and eye contact.
Symptoms (Acute): No data available
Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
Boric Acid	10043-35-3	Oral LD50 Rat 2660 mg/kg		
Potassium Chloride	7447-40-7	Oral LD50 Rat 2600 mg/kg Oral LD50 Mouse 1500 mg/kg		

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Boric Acid	10043-35-3	Listed	Not listed	Not listed
Potassium Chloride	7447-40-7	Not listed	Not listed	Not listed
Sodium Hydroxide	1310-73-2	Not listed	Not listed	Not listed

Chronic Effects:

Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: Evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: Evidence of negative reproductive effects.
Target Organ Effects:
Acute: Toxic effects are amplified in infants., Cardiovascular system
Chronic: Reproductive systems

Section 12

Ecological Data

Overview: This material is not expected to be harmful to the ecology.
Mobility: This material is expected to have high mobility in soil. It absorbs weakly to most soil types.
Persistence: Dissolved into water
Bioaccumulation: No data
Degradability: No data
Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Boric Acid	10043-35-3	72 HR LC50 CARASSIUS AURATUS 1020 MG/L [FLOW-THROUGH] 48 HR EC50 DAPHNIA MAGNA 115 - 153 MG/L
Potassium Chloride	7447-40-7	Aquatic LC50 (96h) Bluegill Sunfish 1060 MG/L Aquatic EC50 (48h) Daphnia 825 MG/L
Sodium Hydroxide	1310-73-2	72 HR EC50 DESMODESMUS SUBSPICATUS 2500 MG/L Aquatic LC50 (96h) Rainbow Trout 45.4 MG/L

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Section 13

Disposal Information

Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.

Waste Disposal Code(s): Not Determined

Section 14

Transport Information

Ground - DOT Proper Shipping Name: Not regulated for transport by US DOT.

Air - IATA Proper Shipping Name: Not regulated for air transport by IATA.

Section 15

Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Boric Acid	10043-35-3	No	No	No	No	No
Potassium Chloride	7447-40-7	No	No	No	No	No
Sodium Hydroxide	1310-73-2	No	1000 lb RQ	1000lb (454kg) final RQ	No	No

California Prop 65: No California Proposition 65 ingredients

Section 16

Additional Information

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The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. C2A Sales & Supplies (Barbados) Ltd. makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health