Safety Data Sheet

Buffer Solution pH 4

Section 1 Product Description

Product Name: Buffer Solution pH 4

Recommended Use: Science education applications

Synonyms: None known

Supplier: C2A Sales & Supplies (Barbados) Ltd.
#3 Canewood Road, Jackson, St. Michael, Barbados BB11005
1-246-426-1256

Section 2 Hazard Identification

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

Not a dangerous substance according to GHS classification criteria. No known OSHA hazards.

GHS Classification:

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Water	7732-18-5	98.5
Acetic Acid, Glacial	64-19-7	1
Sodium Acetate, Anhydrous	127-09-3	0.5

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: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact: After contact with skin, wash immediately with plenty of water.

Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media: Use media suitable to extinguish surrounding fire.

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: Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled: No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS 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: Avoid contact with skin and eyes.

Storage: Keep container tightly closed in a cool, well-ventilated place.

Safety Data Sheet

Storage Code: Green - general chemical storage

Section 8 Protection Information

Chemical Name	ACGIH (TWA)	ACGIH (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Acetic Acid, Glacial	10 ppm TWA	15 ppm STEL	10 ppm TWA; 25 mg/m3 TWA	N/A
Sodium Acetate	N/A	N/A	N/A	N/A

Control Parameters

Engineering Measures: Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

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 Red Depends upon product selection. The color additives do not affect product hazards. Liquid

Odor: None

Odor Threshold: No data available

pH: 4

Melting Point: Estimated 0 C

Boiling Point: 100 C

Flash Point: No data available

Flammable Limits in Air: N/A

Vapor Pressure: No data available

Evaporation Rate (BuAc=1): No data availa ıle

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

Reactivity: Not generally reactive under normal conditions.

Chemical Stability: Stable under normal conditions.

Conditions to Avoid: None known.

Incompatible Materials: Water-reactive materials, Acetic anhydride, Acetaldehydes, Caustics (bases), Oxidizing materials, Halogens, Carbonates

Hazardous Polymerization: Will not occur

Section 11 Toxicity Data

Routes of Entry Inhalation, ingestion, eye or skin contact.

Symptoms (Acute): Impaired Kidney Function, Respiratory Irritation, Lachrymation

Delayed Effects: No data available

Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50

Safety Data Sheet

Acetic Acid, Glacial 64-19-7 INHALATION

LC50 MAMMAL

11.4 GM/M3

INHALATION

LC50 Mouse 5620

ppm

Sodium Acetate, Anhydrous 127-09-3 Oral LD50 Rat

3530 mg/kg

Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Acetic Acid	64-19-7	Not listed	Not listed	Not listed
Sodium Acetate, Anhydrous	127-09-3	Not listed	Not listed	Not listed

Chronic Effects:
Mutagenicity: No evidence of a mutagenic effect.
Teratogenicity: No evidence of a teratogenic effect (birth defect).
Sensitization: No evidence of a sensitization effect.
Reproductive: No evidence of negative reproductive effects.
Target Organ Effects:
Acute: No information available
Chronic: Teeth

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: Biodegradation, Dissolved into water
Bioaccumulation: Bioconcentration is not expected to occur.
Degradability: Biodegrades quickly.

Other Adverse Effects: No data

Chemical Name	CAS Number	Eco Toxicity
Water	7732-18-5	No data available
Acetic Acid, Glacial	64-19-7	Aquatic LC50 (96h) Fathead Minnow 79 MG/L Aquatic EC50 (24h) Daphnia 47 MG/L
Sodium Acetate, Anhydrous	127-09-3	24 HR LC50 LEPOMIS MACROCHIRUS 5000 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA > 1000 MG/L

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:

Air - IATA Proper Shipping Name:

Not regulated for transport by US DOT. 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
Acetic Acid, Glacial	64-19-7	No	5000 lb RQ	5000 lb final RQ; 2270 kg final RQ	No	No
Sodium Acetate, Anhydrous	127-09-3	No	No	No	No	

California Prop 65: No California Proposition 65 ingredients

Safety Data Sheet

Section 16 Additional Information

Revised: 08/21/2018 **Replaces: 06/15/2018** **Printed: 08-25-2018**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply 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
CAS	Chemical Abstract Service Number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOT	U.S. Department of Transportation
IARC	International Agency for Research on Cancer
N/A	Not Available
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
ppm	Parts per million
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
IDLH	Immediately dangerous to life and health