

# Safety Data Sheet

## Buffer Solution pH 4

**CAROLINA<sup>®</sup>**  
www.carolina.com

### Section 1 Product Description

**Product Name:** Buffer Solution pH 4  
**Recommended Use:** Science education applications  
**Synonyms:** None known  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

### 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

| <u>Chemical Name</u>      | <u>CAS #</u> | <u>%</u> |
|---------------------------|--------------|----------|
| Water                     | 7732-18-5    | 98.5     |
| Acetic Acid               | 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.

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Storage Code: Green - general chemical storage

## Section 8 Protection Information

| Chemical Name  | ACGIH      |             | OSHA PEL                 |        |
|----------------|------------|-------------|--------------------------|--------|
|                | (TWA)      | (STEL)      | (TWA)                    | (STEL) |
| Acetic Acid    | 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. Wear chemical splash goggles when handling this product. Have an eye wash station available.

#### Eye Protection:

#### 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:** No data available

**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 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:** 10

**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

Water

##### CAS Number

7732-18-5

##### Oral LD50

Oral LD50 Rat  
90000 mg/kg

##### Dermal LD50

##### Inhalation LC50

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Acetic Acid

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

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:

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

Acetic Acid

64-19-7

No

5000 lb final RQ

5000 lb final RQ; 2270 kg final RQ

No

No

Sodium Acetate, Anhydrous

127-09-3

No

No

No

No

No

# Safety Data Sheet

## Section 16

## Additional Information

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Replaces: 09/03/2014

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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. 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             | 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      |