# Safety Data Sheet

## Buffer Solution pH 9

CAROLINA®
www.carolina.com

## Section 1 Product Description

**Product Name:** Buffer Solution pH 9
**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

| Chemical Name | CAS # | % |
|---|---|---|
| Water | 7732-18-5 | 99.18 |
| Potassium Chloride | 7447-40-7 | 0.4 |
| Boric Acid | 10043-35-3 | 0.33 |
| Sodium Hydroxide | 1310-73-2 | 0.09 |

## 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:** Boron Compounds, Sodium Oxides

## 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
**Environmental Precautions:** 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:** Avoid contact with skin and eyes.
**Storage:** Keep container tightly closed in a cool, well-ventilated place.
**Storage Code:** Green - general chemical storage

## Section 8 Protection Information

| | ACGIH | | OSHA PEL | |
|---|---|---|---|---|
| **Chemical Name** | **(TWA)** | **(STEL)** | **(TWA)** | **(STEL)** |
| Potassium Chloride | N/A | N/A | N/A | N/A |
| Boric Acid | 2 mg/m3 TWA (inhalable fraction, listed under Borate compounds, inorganic) | 6 mg/m3 STEL (inhalable fraction, listed under Borate compounds, inorganic) | N/A | N/A |
| Sodium Hydroxide | N/A | N/A | 2 mg/m3 TWA | N/A |

**Control Parameters**

**Engineering Measures:** Local exhaust ventilation, process enclosures, or other engineering controls are necessary 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 Liquid
**Odor:** None
**Odor Threshold:** No data available
**pH:** 9
**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

**Reactivity:** Not generally reactive under normal conditions.
**Chemical Stability:** Stable under normal conditions.
**Conditions to Avoid:** None known.
**Incompatible Materials:** Water-reactive materials
**Hazardous Decomposition Products:** Sodium Oxides, 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 | | |
| Potassium Chloride | 7447-40-7 | Oral LD50 Rat 2600 mg/kg<br>Oral LD50 Mouse 1500 mg/kg | | |
| Boric Acid | 10043-35-3 | Oral LD50 Rat 2660 mg/kg | | |

**Carcinogenicity:**

| Chemical Name | CAS Number | IARC | NTP | OSHA |
|---|---|---|---|---|
| Potassium Chloride | 7447-40-7 | Not listed | Not listed | Not listed |
| Boric Acid | 10043-35-3 | 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:** 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:** Cardiovascular system, Toxic effects are amplified in infants.
**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 |
| Potassium Chloride | 7447-40-7 | Aquatic LC50 (96h) Bluegill Sunfish 1060 MG/L<br>Aquatic EC50 (48h) Daphnia 825 MG/L<br>72 HR EC50 DESMODESMUS SUBSPICATUS 2500 MG/L |
| Boric Acid | 10043-35-3 | 48 HR EC50 DAPHNIA MAGNA 115 - 153 MG/L |
| Sodium Hydroxide | 1310-73-2 | Aquatic LC50 (96h) Rainbow Trout 45.4 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 |
|---|---|---|---|---|---|---|
| Potassium Chloride | 7447-40-7 | No | No | No | No | No |
| Boric Acid | 10043-35-3 | 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

**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 |