# SAFETY DATA SHEET

**Creation Date** 12-Jan-2010 **Revision Date** 25-Apr-2019 **Revision Number** 4

## 1. Identification

**Product Name** **Buffer Solution pH 3.00 (Certified)**

**Cat No. :** **SB97-20; SB97-500**

**Synonyms** No information available

**Recommended Use** Laboratory chemicals.
**Uses advised against** Food, drug, pesticide or biocidal product use

**Details of the supplier of the safety data sheet**

**Company**
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

**Emergency Telephone Number**
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 001-703-527-3887

## 2. Hazard(s) identification

**Classification**
Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Based on available data, the classification criteria are not met

**Label Elements**
None required

**Hazards not otherwise classified (HNOC)**
None identified

## 3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|---|---|---|
| Water | 7732-18-5 | 98.86 |
| 1,2-Benzenedicarboxylic acid, monopotassium salt | 877-24-7 | 1.0 |
| Hydrogen chloride | 7647-01-0 | 0.07 |

| | | |
|---|---|---|
| Formaldehyde | 50-00-0 | 0.05 |
| Methyl alcohol | 67-56-1 | 0.02 |

## 4. First-aid measures

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation** Move to fresh air. Get medical attention immediately if symptoms occur.

**Ingestion** Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects** None reasonably foreseeable.

**Notes to Physician** Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media** Substance is nonflammable; use agent most appropriate to extinguish surrounding fire.

**Unsuitable Extinguishing Media** No information available

**Flash Point** Not applicable
**Method -** No information available

**Autoignition Temperature** No information available

**Explosion Limits**
**Upper** No data available
**Lower** No data available
**Sensitivity to Mechanical Impact** No information available
**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**
None known. None reasonably foreseeable.

**Hazardous Combustion Products**
None known
**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

| Health | Flammability | Instability | Physical hazards |
|---|---|---|---|
| 1 | 0 | 0 | N/A |

## 6. Accidental release measures

**Personal Precautions** Use personal protective equipment. Ensure adequate ventilation.
**Environmental Precautions** Should not be released into the environment. See Section 12 for additional ecological information.

**Methods for Containment and Clean Up** Sweep up or vacuum up spillage and collect in suitable container for disposal.

## 7. Handling and storage

**Handling** Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin,

eyes and clothing. Avoid ingestion and inhalation.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|---|---|---|---|---|
| Hydrogen chloride | Ceiling: 2 ppm | Ceiling: 5 ppm<br>Ceiling: 7 mg/m³<br>(Vacated) Ceiling: 5 ppm<br>(Vacated) Ceiling: 7 mg/m³ | IDLH: 50 ppm<br>Ceiling: 5 ppm<br>Ceiling: 7 mg/m³ | Ceiling: 2 ppm |
| Formaldehyde | TWA: 0.1 ppm<br>STEL: 0.3 ppm | (Vacated) TWA: 3 ppm<br>(Vacated) STEL: 10 ppm<br>(Vacated) Ceiling: 5 ppm<br>TWA: 0.75 ppm<br>STEL: 2 ppm | IDLH: 20 ppm<br>TWA: 0.016 ppm<br>Ceiling: 0.1 ppm | Ceiling: 0.3 ppm |
| Methyl alcohol | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin | (Vacated) TWA: 200 ppm<br>(Vacated) TWA: 260 mg/m³<br>(Vacated) STEL: 250 ppm<br>(Vacated) STEL: 325 mg/m³<br>Skin<br>TWA: 200 ppm<br>TWA: 260 mg/m³ | IDLH: 6000 ppm<br>TWA: 200 ppm<br>TWA: 260 mg/m³<br>STEL: 250 ppm<br>STEL: 325 mg/m³ | TWA: 200 ppm<br>STEL: 250 ppm |

*Legend*

*ACGIH - American Conference of Governmental Industrial Hygienists*
*OSHA - Occupational Safety and Health Administration*
*NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health*

**Engineering Measures** None under normal use conditions.

**Personal Protective Equipment**

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

| | |
|---|---|
| **Physical State** | Liquid |
| **Appearance** | Clear |
| **Odor** | Odorless |
| **Odor Threshold** | No information available |
| **pH** | 3.00 |
| **Melting Point/Range** | 0 °C / 32 °F |
| **Boiling Point/Range** | 100 °C / 212 °F |
| **Flash Point** | Not applicable |
| **Evaporation Rate** | No information available |
| **Flammability (solid,gas)** | Not applicable |
| **Flammability or explosive limits** | |
| **Upper** | No data available |

| | |
|---|---|
| **Lower** | No data available |
| **Vapor Pressure** | No information available |
| **Vapor Density** | No information available |
| **Specific Gravity** | 0.7 |
| **Solubility** | Soluble in water |
| **Partition coefficient; n-octanol/water** | No data available |
| **Autoignition Temperature** | No information available |
| **Decomposition Temperature** | No information available |
| **Viscosity** | No information available |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Excess heat.

**Incompatible Materials** None known

**Hazardous Decomposition Products** None known

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Acute Toxicity**

**Product Information** No acute toxicity information is available for this product
**Oral LD50** Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
**Dermal LD50** Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.
**Vapor LC50** Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

**Component Information**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Water | - | Not listed | Not listed |
| 1,2-Benzenedicarboxylic acid, monopotassium salt | LD50 > 3200 mg/kg ( Rat ) | Not listed | Not listed |
| Hydrogen chloride | LD50 238 - 277 mg/kg ( Rat ) | LD50 > 5010 mg/kg ( Rabbit ) | LC50 = 1.68 mg/L ( Rat ) 1 h |
| Formaldehyde | 500 mg/kg (Rat) | LD50 = 270 mg/kg (Rabbit) | 0.578 mg/L (Rat) 4 h |
| Methyl alcohol | **Calc. ATE 60 mg/kg** LD50 > 1187 – 2769 mg/kg ( Rat ) | **Calc. ATE 60 mg/kg** LD50 = 17100 mg/kg ( Rabbit ) | **Calc. ATE 0.6 mg/L (vapours) or 0.5 mg/L (mists)** LC50 = 128.2 mg/L ( Rat ) 4 h |

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** No information available

**Sensitization** No information available

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|---|---|---|---|---|---|---|
| Water | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| 1,2-Benzenedicarboxylic acid, monopotassium salt | 877-24-7 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Hydrogen chloride | 7647-01-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

| | | | | | | |
|---|---|---|---|---|---|---|
| Formaldehyde | 50-00-0 | Group 1 | Known | A1 | X | A2 |
| Methyl alcohol | 67-56-1 | Not listed | Not listed | Not listed | Not listed | Not listed |

*IARC: (International Agency for Research on Cancer)*

*NTP: (National Toxicity Program)*

*ACGIH: (American Conference of Governmental Industrial Hygienists)*

*Mexico - Occupational Exposure Limits - Carcinogens*

*IARC: (International Agency for Research on Cancer)*
*Group 1 - Carcinogenic to Humans*
*Group 2A - Probably Carcinogenic to Humans*
*Group 2B - Possibly Carcinogenic to Humans*
*NTP: (National Toxicity Program)*
*Known - Known Carcinogen*
*Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen*
*A1 - Known Human Carcinogen*
*A2 - Suspected Human Carcinogen*
*A3 - Animal Carcinogen*
*ACGIH: (American Conference of Governmental Industrial Hygienists)*
*Mexico - Occupational Exposure Limits - Carcinogens*
*A1 - Confirmed Human Carcinogen*
*A2 - Suspected Human Carcinogen*
*A3 - Confirmed Animal Carcinogen*
*A4 - Not Classifiable as a Human Carcinogen*
*A5 - Not Suspected as a Human Carcinogen*

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects,both acute and delayed** No information available

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

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| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|---|---|---|---|---|
| Hydrogen chloride | Not listed | LC50: = 282 mg/L, 96h static (Gambusia affinis) | Not listed | Not listed |
| Formaldehyde | Not listed | Leuciscus idus: LC50 = 15 mg/L 96h | Not listed | EC50 = 20 mg/L 96h<br>EC50 = 2 mg/L 48h |
| Methyl alcohol | Not listed | Pimephales promelas: LC50 > 10000 mg/L 96h | EC50 = 39000 mg/L 25 min<br>EC50 = 40000 mg/L 15 min<br>EC50 = 43000 mg/L 5 min | EC50 > 10000 mg/L 24h |

**Persistence and Degradability** Soluble in water Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

| Component | log Pow |
|---|---|
| Formaldehyde | -0.35 |
| Methyl alcohol | -0.74 |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

| Component | RCRA - U Series Wastes | RCRA - P Series Wastes |
|---|---|---|
| Formaldehyde - 50-00-0 | U122 | - |
| Methyl alcohol - 67-56-1 | U154 | - |

## 14. Transport information

**DOT** Not regulated
**TDG** Not regulated
**IATA** Not regulated
**IMDG/IMO** Not regulated

## 15. Regulatory information

**United States of America Inventory**

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|---|---|---|---|---|
| Water | 7732-18-5 | X | ACTIVE | - |
| 1,2-Benzenedicarboxylic acid, monopotassium salt | 877-24-7 | X | ACTIVE | - |
| Hydrogen chloride | 7647-01-0 | X | ACTIVE | - |
| Formaldehyde | 50-00-0 | X | ACTIVE | - |
| Methyl alcohol | 67-56-1 | X | ACTIVE | - |

**Legend:**
**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|---|---|---|---|---|---|---|---|---|---|
| Water | 7732-18-5 | X | - | 231-791-2 | X | - | X | X | KE-35400 |
| 1,2-Benzenedicarboxylic acid, monopotassium salt | 877-24-7 | X | - | 212-889-4 | X | X | X | X | KE-02310 |
| Hydrogen chloride | 7647-01-0 | X | - | 231-595-7 | X | X | X | X | KE-20189 |
| Formaldehyde | 50-00-0 | X | - | 200-001-8 | X | X | X | X | KE-17074 |
| Methyl alcohol | 67-56-1 | X | - | 200-659-6 | X | X | X | X | KE-23193 |

**U.S. Federal Regulations**

**SARA 313**

| Component | CAS-No | Weight % | SARA 313 - Threshold Values % |
|---|---|---|---|
| Hydrogen chloride | 7647-01-0 | 0.07 | 1.0 |
| Formaldehyde | 50-00-0 | 0.05 | 0.1 |
| Methyl alcohol | 67-56-1 | 0.02 | 1.0 |

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)**

| Component | CWA - Hazardous | CWA - Reportable | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|---|---|---|---|---|

| | Substances | Quantities | | |
|---|---|---|---|---|
| Hydrogen chloride | X | 5000 lb | - | - |
| Formaldehyde | X | 100 lb | - | - |

**Clean Air Act**

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|---|---|---|---|
| Hydrogen chloride | X | | - |
| Formaldehyde | X | | - |
| Methyl alcohol | X | | - |

**OSHA** - Occupational Safety and Health Administration — Not applicable

| Component | Specifically Regulated Chemicals | Highly Hazardous Chemicals |
|---|---|---|
| Hydrogen chloride | - | TQ: 5000 lb |
| Formaldehyde | 2 ppm STEL<br>0.5 ppm Action Level<br>0.75 ppm TWA | TQ: 1000 lb |

**CERCLA** — This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|---|---|---|
| Hydrogen chloride | 5000 lb | 5000 lb |
| Formaldehyde | 100 lb | 100 lb |
| Methyl alcohol | 5000 lb | - |

**California Proposition 65** — This product contains the following proposition 65 chemicals

| Component | CAS-No | California Prop. 65 | Prop 65 NSRL | Category |
|---|---|---|---|---|
| Formaldehyde | 50-00-0 | Carc. (Gaseous only) | 40 µg/day | Carcinogen |
| Methyl alcohol | 67-56-1 | Developmental | - | Developmental |

**U.S. State Right-to-Know Regulations**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|---|---|---|---|---|---|
| Water | - | - | X | - | - |
| Hydrogen chloride | X | X | X | X | X |
| Formaldehyde | X | X | X | X | X |
| Methyl alcohol | X | X | X | X | X |

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** — This product contains the following DHS chemicals:
**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

| Component | DHS Chemical Facility Anti-Terrorism Standard |
|---|---|
| Hydrogen chloride | Release STQs - 15000lb (concentration >=37%)<br>Release STQs - 5000lb (anhydrous)<br>Theft STQs - 500lb (anhydrous) |
| Formaldehyde | Release STQs - 15000lb (solution) |

**Other International Regulations**

**Mexico - Grade** — No information available

## 16. Other information

| | |
|---|---|
| **Prepared By** | Regulatory Affairs<br>Thermo Fisher Scientific<br>Email: EMSDS.RA@thermofisher.com |
| **Creation Date** | 12-Jan-2010 |
| **Revision Date** | 25-Apr-2019 |
| **Print Date** | 25-Apr-2019 |
| **Revision Summary** | This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). |

**Disclaimer**

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

**End of SDS**