SAFETY DATA SHEET

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: No Information available

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:

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>98.86</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td>877-24-7</td>
<td>1.0</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>0.07</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>0.05</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>0.02</td>
</tr>
</tbody>
</table>
4. First-aid measures

Eye Contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain 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. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion
Do not induce vomiting. Obtain medical attention.

Most important symptoms/effects
No information available.

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.

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

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

6. Accidental release measures

Personal Precautions
Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional ecological information.

Methods for Containment and Clean Up
Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling
Wear personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist.

Storage
Keep containers tightly closed in a dry, cool and well-ventilated place.
## 8. Exposure controls / personal protection

### Exposure Guidelines

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>Ceiling: 2 ppm</td>
<td>Ceiling: 5 ppm Ceiling: 7 mg/m³ (Vacated) Ceiling: 5 ppm Ceiling: 7 mg/m³ (Vacated)</td>
<td>IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m³</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Ceiling: 0.3 ppm</td>
<td>(Vacated) TWA: 3 ppm (Vacated) STEL: 10 ppm (Vacated) Ceiling: 5 ppm TWA: 0.75 ppm STEL: 2 ppm</td>
<td>IDLH: 20 ppm TWA: 0.016 ppm Ceiling: 0.1 ppm</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>TWA: 200 ppm STEL: 250 ppm Skin</td>
<td>(Vacated) TWA: 200 ppm (Vacated) TWA: 260 mg/m³ (Vacated) STEL: 250 ppm (Vacated) STEL: 325 mg/m³ Skin TWA: 200 ppm TWA: 260 mg/m³</td>
<td>IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 325 mg/m³</td>
</tr>
</tbody>
</table>

### Component

<table>
<thead>
<tr>
<th>Component</th>
<th>Quebec</th>
<th>Mexico OEL (TWA)</th>
<th>Ontario TWAEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>Ceiling: 5 ppm Ceiling: 7.5 mg/m³</td>
<td>Ceiling: 5 ppm Ceiling: 7 mg/m³</td>
<td>CEV: 2 ppm</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>Ceiling: 2 ppm Ceiling: 3 mg/m³</td>
<td>Ceiling: 2 ppm Ceiling: 3 mg/m³</td>
<td>STEL: 1.0 ppm CEV: 1.5 ppm</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>TWA: 200 ppm TWA: 262 mg/m³ STEL: 250 ppm STEL: 328 mg/m³ Skin</td>
<td>TWA: 200 ppm TWA: 260 mg/m³ STEL: 250 ppm STEL: 310 mg/m³ Skin</td>
<td>TWA: 200 ppm STEL: 250 ppm Skin</td>
</tr>
</tbody>
</table>

### Legend

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

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### 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

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>3.00</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>0 °C / 32 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>100 °C / 212 °F</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>No information available</td>
</tr>
</tbody>
</table>
Flammability or explosive limits
- Upper: No data available
- Lower: No data available

Vapor Pressure: No information available
Vapor Density: No information available
Relative Density: 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

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral (mg/kg)</th>
<th>LD50 Dermal (mg/kg)</th>
<th>LC50 Inhalation (mg/L)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>238 - 277</td>
<td>5010</td>
<td>1.68</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>500</td>
<td>270</td>
<td>0.578</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>6200</td>
<td>Not listed</td>
<td>22500</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid,</td>
<td>877-24-7</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>monopotassium salt</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>group 3</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>Group 1</td>
<td>Known</td>
<td>A2</td>
<td>X</td>
<td>A2</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

IARC: (International Agency for Research on Cancer)
- Group 1: Carcinogenic to Humans
- Group 2A: Probably Carcinogenic to Humans
- Group 2B: Possibly Carcinogenic to Humans
**Buffer Solution pH 3.00 (Certified)**

**Revision Date** 17-Oct-2014

### NTP: (National Toxicity Program)
- Known - Known Carcinogen
- Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

### ACGIH: (American Conference of Governmental Industrial Hygienists)
- A1 - Known Human Carcinogen
- A2 - Suspected Human Carcinogen
- A3 - Animal Carcinogen

### Mutagenic Effects
No information available

### Reproductive Effects
No information available.

### Developmental Effects
Component substance is listed on California Proposition 65 as a developmental hazard.

### 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. See actual entry in RTECS for complete information.

### 12. Ecological information

#### Ecotoxicity

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>Not listed</td>
<td>Leuciscus idus: LC50 = 15 mg/L 96h</td>
<td>Not listed</td>
<td>EC50 = 20 mg/L 96h</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EC50 = 2 mg/L 48h</td>
<td></td>
<td>EC50 &gt; 15000 mg/L 24h</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>Not listed</td>
<td>Pimephales promelas: LC50 &gt; 10000 mg/L 96h</td>
<td>EC50 = 39000 mg/L 25 min</td>
<td>EC50 = 40000 mg/L 15 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EC50 = 43000 mg/L 5 min</td>
<td>EC50 &gt; 10000 mg/L 24h</td>
</tr>
</tbody>
</table>

#### Persistence and Degradability
No information available

#### Bioaccumulation / Accumulation
No information available

#### Mobility

<table>
<thead>
<tr>
<th>Component</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>-0.35</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>-0.74</td>
</tr>
</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>Component</th>
<th>RCRA - U Series Wastes</th>
<th>RCRA - P Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde - 50-00-0</td>
<td>U122</td>
<td>-</td>
</tr>
<tr>
<td>Methyl alcohol - 67-56-1</td>
<td>U154</td>
<td>-</td>
</tr>
</tbody>
</table>

### 14. Transport information

#### DOT
Not regulated
15. Regulatory information

### International Inventories

<table>
<thead>
<tr>
<th>Component</th>
<th>TSCA</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>ELINCS</th>
<th>NLP</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-791-2</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1,2-Benzenedicarboxylic acid, monopotassium salt</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>212-889-4</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Hydrogen chloride</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>231-595-7</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-001-8</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>200-659-6</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**Legend:**
- X - Listed
- E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.
- F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
- N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
- P - Indicates a commenced PMN substance
- R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
- S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
- T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
- XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
- Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
- Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

### U.S. Federal Regulations

#### TSCA 12(b)
Not applicable

#### SARA 313

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>7647-01-0</td>
<td>0.07</td>
<td>1.0</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>0.05</td>
<td>0.1</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>0.02</td>
<td>1.0</td>
</tr>
</tbody>
</table>

#### SARA 311/312 Hazardous Categorization

- **Acute Health Hazard**: No
- **Chronic Health Hazard**: No
- **Fire Hazard**: No
- **Sudden Release of Pressure Hazard**: No
- **Reactive Hazard**: No

### Clean Water Act

<table>
<thead>
<tr>
<th>Component</th>
<th>CWA - Hazardous Substances</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>X</td>
<td>5000 lb</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>X</td>
<td>100 lb</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Clean Air Act

<table>
<thead>
<tr>
<th>Component</th>
<th>HAPS Data</th>
<th>Class 1 Ozone Depleters</th>
<th>Class 2 Ozone Depleters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
OSHA Occupational Safety and Health Administration
Not applicable

<table>
<thead>
<tr>
<th>Component</th>
<th>Specifically Regulated Chemicals</th>
<th>Highly Hazardous Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td></td>
<td>TQ: 5000 lb</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2 ppm STEL 0.5 ppm Action Level</td>
<td>TQ: 1000 lb</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Component</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA EHS RQs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>5000 lb</td>
<td>5000 lb</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>100 lb</td>
<td>100 lb</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>5000 lb</td>
<td>-</td>
</tr>
</tbody>
</table>

California Proposition 65
This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>California Prop. 65</th>
<th>Prop 65 NSRL</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formaldehyde</td>
<td>50-00-0</td>
<td>Carcinogen</td>
<td>40 µg/day</td>
<td>Carcinogen</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>67-56-1</td>
<td>Developmental</td>
<td>-</td>
<td>Developmental</td>
</tr>
</tbody>
</table>

State Right-to-Know

<table>
<thead>
<tr>
<th>Component</th>
<th>Massachusetts</th>
<th>New Jersey</th>
<th>Pennsylvania</th>
<th>Illinois</th>
<th>Rhode Island</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Methyl alcohol</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Component</th>
<th>DHS Chemical Facility Anti-Terrorism Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrogen chloride</td>
<td>0 lb STQ (anhydrous); 11250 lb STQ (37% concentration or greater)</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>11250 lb STQ (solution)</td>
</tr>
</tbody>
</table>

Other International Regulations

Mexico - Grade
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class
Non-controlled

16. Other information

Prepared By
Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date
12-Jan-2010
Revision Date
17-Oct-2014
Print Date
17-Oct-2014
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
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End of SDS