1. IDENTIFICATION

Product identifier
Product Name
HYDRION BUFFER pH-4.00

Other means of identification
SDS #
MEL-001

Recommended use of the chemical and restrictions on use
Recommended Use
For preparation of buffer standards in distilled water.

Details of the supplier of the safety data sheet
Supplier Address
MICRO ESSENTIAL LABORATORY, INC
PO BOX 100824, 4224 AVENUE H
BROOKLYN, NY 11210

Emergency telephone number
Company Phone Number
PHONE: 718-338-3618
FAX: 718-692-4491 (8:00AM TO 4:00PM EASTERN STANDARD TIME)

Emergency Telephone
INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance
White to off white Granules, crystals or powder

Physical state
Solid

Odor
Odorless

Classification
This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Bitartrate</td>
<td>877-24-7</td>
<td>100</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is “proprietary” and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact
Wash affected areas thoroughly with soap and water for at least 15 minutes. Get medical attention if necessary.

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Get medical attention if necessary.
Ingestion

Drink plenty of water. Do not induce vomiting without medical advice. Get medical attention if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms
Dust may be irritating to eyes. Prolonged skin contact may cause skin irritation or allergic reaction. Ingestion can irritate stomach and cause mouth burns. Prolonged exposure by inhalation may cause irritation of the nose, throat and respiratory tract. Prolonged exposure to BULK POWDER may cause irritation to the eyes, skin and respiratory system.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
Not determined.

Specific Hazards Arising from the Chemical
Non-flammable.

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. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Use personal protective equipment as required. Keep unnecessary people away, isolate hazard area and deny entry. Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only.

Environmental precautions

Environmental precautions
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment
Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up
For small spills: Wipe up product and rinse affected area with water. For slightly larger spills: Carefully sweep or scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water if permitted by local regulations. Decontaminate the area of the spill with a soap solution. For very large spills: dike far ahead of liquid spill for later disposal in suitable containers.
7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling
Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. The following precautions pertain only to BULK POWDER handling:
- Ventilation: Use adequate general or local ventilation to keep fume and dust levels as low as possible
- Respiratory Protection: Use NIOSH approved dust respirator when handling bulk powder
- Eye Protection: Chemical splash goggles with side shields when handling bulk powder
- Gloves: Natural rubber, butyl neoprene or equivalent. Wear full cover clothing when handling bulk powder. Do not breathe dust. Avoid contact with skin, eyes or clothing. Wash face, hands and any exposed skin thoroughly after handling. Do NOT take internally.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed and store in a cool, dry and well-ventilated place. Avoid excessive temperatures & high humidity.

Incompatible Materials
Hazardous reaction in aqueous solution may occur with chlorine, hypochlorous acid, hypochlorites, cyanides or sulfides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers. Local exhaust ventilation recommended.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Refer to 29 CFR 1910.133 for eye and face protection regulations. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with, contact lenses.

Skin and Body Protection
Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Respiratory Protection
Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. WARNING! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.
9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>White to off white Granules, crystals or Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not determined</td>
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<tr>
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<td>Not determined</td>
<td></td>
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<tr>
<td>Property</td>
<td>Values</td>
<td>Remarks • Method</td>
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<td>Melting point / freezing point</td>
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<td>Boiling point / boiling range</td>
<td>100 °C / 212 °F</td>
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</tr>
<tr>
<td>Flash point</td>
<td>Non-flammable</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<td></td>
</tr>
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<td>Flammability (Solid, Gas)</td>
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<td></td>
</tr>
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<td>Flammability Limit in Air</td>
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<tr>
<td>Upper flammability or explosive limits</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
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<td></td>
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<tr>
<td>Vapor Pressure</td>
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<td>Vapor Density</td>
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<tr>
<td>Relative Density</td>
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<td>@ 60°F (ASTM D 1298)</td>
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<tr>
<td>Water Solubility</td>
<td>Miscible in water</td>
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<td>Solubility in other solvents</td>
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<td>Partition Coefficient</td>
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<tr>
<td>Autoignition temperature</td>
<td>Not determined</td>
<td></td>
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<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
<td></td>
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<tr>
<td>Kinematic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>Not determined</td>
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<td>Explosive Properties</td>
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<td>Other information</td>
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<tr>
<td>Molecular weight</td>
<td>Potassium Biphthalate 204.2 grams</td>
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</table>

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
See below - Incompatible Materials.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Hazardous reaction in aqueous solution may occur with chlorine, hypochlorous acid, hypochlorites, cyanides or sulfides.

Hazardous decomposition products
May emit toxic fumes of phosphorous oxide.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact  Avoid contact with eyes.
Skin Contact  Avoid contact with skin.
Inhalation  Do not inhale.
Ingestion  May be harmful if swallowed.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium Biphthalate 877-24-7</td>
<td>&gt; 3200 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms  Please see section 4 of this SDS for symptoms.

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

Carcinogenicity  Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

Oral LD50  3,203.20 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility
Not determined

Other Adverse Effects
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes  Disposal should be in accordance with applicable regional, national and local laws and regulations.
14. TRANSPORT INFORMATION

**Note**
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**
Not regulated

**IATA**
Not regulated

**IMDG**
Not regulated

15. REGULATORY INFORMATION

**International Inventories**

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA</th>
<th>TSCA Inventory Status</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
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<tr>
<td>Potassium Biphthalate</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- **ENCS** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations**

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations**

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**
This product does not contain any substances regulated under applicable state right-to-know regulations.
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
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<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Not determined</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 15-Feb-2012  
Revision Date: 12-Aug-2019  
Revision Note: Regulatory review

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 Safety Data Sheet
1. IDENTIFICATION

Product identifier
Product Name
HYDRION BUFFER pH 7.00

Other means of identification
SDS #
MEL-002

Recommended use of the chemical and restrictions on use
Recommended Use
For preparation of buffer standards in distilled water.

Details of the supplier of the safety data sheet
Supplier Address
MICRO ESSENTIAL LABORATORY, INC
PO BOX 100824, 4224 AVENUE H
BROOKLYN, NY  11210

Emergency telephone number
Company Phone Number
PHONE: 718-338-3618  FAX: 718-692-4491 (8:00AM TO 4:00PM EASTERN STANDARD TIME)

Emergency Telephone
INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance
White to off white Granules, crystals or powder

Physical state
Solid

Odor
Odorless

Classification
This chemical does not meet the hazardous criteria set forth by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). However, this Safety Data Sheet (SDS) contains valuable information critical to the safe handling and proper use of this product. This SDS should be retained and available for employees and other users of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate</td>
<td>7558-79-4</td>
<td>60-70</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is “proprietary” and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret. **

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact
Wash affected areas thoroughly with soap and water for at least 15 minutes. Get medical attention if necessary.

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Get medical attention if necessary.
Ingestion

Drink plenty of water. Do not induce vomiting without medical advice. Get medical attention if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms

Dust may be irritating to eyes. Prolonged skin contact may cause skin irritation or allergic reaction. Ingestion can irritate stomach and cause mouth burns. Prolonged exposure by inhalation may cause irritation of the nose, throat and respiratory tract. Prolonged exposure to BULK POWDER may cause irritation to the eyes, skin and respiratory system.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media

Not determined.

Specific Hazards Arising from the Chemical

Non-flammable.

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. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions

Use personal protective equipment as required. Keep unnecessary people away, isolate hazard area and deny entry. Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only.

Environmental precautions

Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment

Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up

Sweep up, place in a bag, and hold for waste disposal. If permitted by local regulations and authorities dispose of as normal refuse. However, if NOT permitted to do so then waste must be disposed of according to RCRA regulations. Wash area with soap and water.
7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling
Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. The following precautions pertain only to BULK POWDER handling:
Ventilation: Use adequate general or local ventilation to keep fume and dust levels as low as possible
Respiratory Protection: Use NIOSH approved dust respirator when handling bulk powder
Eye Protection: Chemical splash goggles with side shields when handling bulk powder
Gloves: Natural rubber, butyl neoprene or equivalent. Wear full cover clothing when handling bulk powder. Do not breathe dust. Avoid contact with skin, eyes or clothing. Wash face, hands and any exposed skin thoroughly after handling. Do NOT take internally.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed and store in a cool, dry and well-ventilated place. Avoid excessive temperatures & high humidity.

Incompatible Materials
Hazardous reaction in aqueous solution may occur with chlorine, hypochlorous acid, hypochlorites, cyanides or sulfides.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers. Local exhaust ventilation recommended.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Refer to 29 CFR 1910.133 for eye and face protection regulations. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with, contact lenses.

Skin and Body Protection
Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Respiratory Protection
Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. WARNING! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.
9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
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<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>White to off white Granules, crystals or powder</td>
<td>Odor: Odorless</td>
</tr>
<tr>
<td>Color</td>
<td>White to off white</td>
<td>Odor Threshold: Not determined</td>
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<tr>
<td>pH</td>
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<td>Melting point / freezing point</td>
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<tr>
<td>Boiling point / boiling range</td>
<td>100 °C / 212 °F</td>
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<tr>
<td>Flash point</td>
<td>Non-flammable</td>
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<tr>
<td>Evaporation Rate</td>
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<td></td>
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<td>Flammability (Solid, Gas)</td>
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<td>Flammability Limit in Air</td>
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<td>Upper flammability or explosive limits</td>
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<tr>
<td>Vapor Pressure</td>
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<td>Vapor Density</td>
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<tr>
<td>Relative Density</td>
<td>~1</td>
<td>@ 60°F (ASTM D 1298)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Miscible in water</td>
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<td>Solubility in other solvents</td>
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<tr>
<td>Partition Coefficient</td>
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<td>Autoignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<td>Kinematic viscosity</td>
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<td>Dynamic Viscosity</td>
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<td>Explosive Properties</td>
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<td>Oxidizing Properties</td>
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<tr>
<td>Molecular weight</td>
<td>Potassium Phosphate Monobasic 136.09 grams</td>
<td>Sodium Phosphate Dibasic 141.96 grams</td>
</tr>
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10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
See below - Incompatible Materials.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Hazardous reaction in aqueous solution may occur with chlorine, hypochlorous acid, hypochlorites, cyanides or sulfides.

Hazardous decomposition products
May emit toxic fumes of phosphorous oxide.
11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact  Avoid contact with eyes.
Skin Contact  May be harmful in contact with skin.
Inhalation  Do not inhale.
Ingestion  Do not ingest.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
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<td>Sodium Phosphate</td>
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</tr>
<tr>
<td>Potassium Phosphate</td>
<td>3200 mg/kg (Rat)</td>
<td>&gt; 4640 mg/kg (Rabbit)</td>
<td>-</td>
</tr>
<tr>
<td>7778-77-0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms  Please see section 4 of this SDS for symptoms.

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

Carcinogenicity  Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

<table>
<thead>
<tr>
<th></th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
<td>6,238.50 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Dermal LD50</td>
<td>4,644.64 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility
Not determined

Other Adverse Effects
Not determined
13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT
Not regulated

IATA
Not regulated

IMDG
Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA</th>
<th>TSCA Inventory Status</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Potassium Phosphate</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
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- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- **AICS** - Australian Inventory of Chemical Substances

US Federal Regulations

CERCLA

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate</td>
<td>5000 lb</td>
<td></td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>7558-79-4</td>
<td></td>
<td></td>
<td>RQ 2270 kg final RQ</td>
</tr>
</tbody>
</table>

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

CWA (Clean Water Act)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate</td>
<td>5000 lb</td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Phosphate 7558-79-4</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
<th>Physical Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Not determined</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 15-Feb-2012
Revision Date: 12-Aug-2019
Revision Note: Regulatory review

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 Safety Data Sheet
1. IDENTIFICATION

Product identifier
Product Name
HYDRION BUFFER pH 10.00

Other means of identification
SDS #
MEL-003

Recommended use of the chemical and restrictions on use
Recommended Use
For preparation of buffer standards in distilled water.

Details of the supplier of the safety data sheet
Supplier Address
MICRO ESSENTIAL LABORATORY, INC
PO BOX 100824, 4224 AVENUE H
BROOKLYN, NY 11210

Emergency telephone number
Company Phone Number
PHONE: 718-338-3618
FAX: 718-692-4491 (8:00AM TO 4:00PM EASTERN STANDARD TIME)

Emergency Telephone
INFO TRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance
White to off white Granules, crystals or powder

Physical state
Solid

Odor
Odorless

Classification

Acute toxicity - Inhalation (Dusts/Mists)
Category 4

Serious eye damage/eye irritation
Category 2

Signal Word
Warning

Hazard statements
Harmful if inhaled
Causes serious eye irritation

Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wash face, hands and any exposed skin thoroughly after handling
Wear eye protection/ face protection
Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate</td>
<td>497-19-8</td>
<td>50-70</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is “proprietary” and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret. **

3. COMPOSITION/INFORMATION ON INGREDIENTS

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
Wash affected areas thoroughly with soap and water for at least 15 minutes. Get medical attention if necessary.

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Call a poison center or doctor/physician if you feel unwell.

Ingestion
Drink plenty of water. Do not induce vomiting without medical advice. Get medical attention if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms
Dust may be irritating to eyes. Prolonged skin contact may cause skin irritation or allergic reaction. The eye irritation may be severe. Ingestion can irritate stomach and cause mouth burns. Prolonged exposure by inhalation may cause irritation of the nose, throat and respiratory tract. Prolonged exposure to BULK POWDER may cause irritation to the eyes, skin and respiratory system. May be harmful if swallowed.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media
Not determined.

Specific Hazards Arising from the Chemical
Non-flammable.

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. Do not release runoff from fire control methods to sewers or waterways.
6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Use personal protective equipment as required. Keep unnecessary people away, isolate hazard area and deny entry. Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only.

Environmental precautions

Environmental precautions
Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment
Prevent further leakage or spillage if safe to do so.

Methods for Clean-Up
Cover spilled material with a dry acid, such as Citric or Boric. Scoop up into a large beaker. Adjust pH between 6 and 9 with a diluted acid, such as Sulfuric or Citric. Flush reacted material to the drain with a large excess of water but ONLY if permitted by local authorities and regulations. If not permitted, must be disposed of as a RCRA waste.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling
Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. The following precautions pertain only to BULK POWDER handling:
- Ventilation: Use adequate general or local ventilation to keep fume and dust levels as low as possible
- Respiratory Protection: Use NIOSH approved dust respirator when handling bulk powder
- Eye Protection: Chemical splash goggles with side shields when handling bulk powder
- Gloves: Natural rubber, butyl neoprene or equivalent. Wear full cover clothing when handling bulk powder. Do not breathe dust. Avoid contact with skin, eyes or clothing. Wash face, hands and any exposed skin thoroughly after handling. Do NOT take internally.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep container tightly closed and store in a cool, dry and well-ventilated place. Avoid excessive temperatures & high humidity.

Incompatible Materials
Hazardous reaction in aqueous solution may occur with strong acid, aluminum, fluorine, phosphorus pentoxide and ammonium phosphate monobasic.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies

Appropriate engineering controls

Engineering Controls
Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers. Local exhaust ventilation recommended.

Individual protection measures, such as personal protective equipment

Eye/Face Protection
Refer to 29 CFR 1910.133 for eye and face protection regulations. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with, contact lenses.
Skin and Body Protection: Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

Respiratory Protection: Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. **WARNING!** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>White to off white Granules, crystals or <strong>Odor</strong> Odorless</td>
<td>Odor Threshold Not determined</td>
</tr>
<tr>
<td>Color</td>
<td>White to off white</td>
<td></td>
</tr>
<tr>
<td><strong>Property</strong></td>
<td><strong>Values</strong></td>
<td><strong>Remarks • Method</strong></td>
</tr>
<tr>
<td>pH</td>
<td>10.00</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>100 °C / 212 °F</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Non-flammable</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Relative Density</td>
<td>~1</td>
<td>@ 60°F (ASTM D 1298)</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>Miscible in water</td>
<td></td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Dynamic Viscosity</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Other information</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>Sodium Carbonate 105.99 grams</td>
<td>Sodium Bicarbonate 84.01 grams</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**
Not reactive under normal conditions.
Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
See below - Incompatible Materials.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to Avoid
Keep out of reach of children.

Incompatible materials
Hazardous reaction in aqueous solution may occur with strong acid, aluminum, fluorine, phosphorus pentoxide and ammonium phosphate monobasic.

Hazardous decomposition products
Toxic fumes of carbon monoxide or irritant smoke.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact
Avoid contact with eyes.

Skin Contact
Avoid contact with skin.

Inhalation
Harmful if inhaled.

Ingestion
May be harmful if swallowed.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate</td>
<td>= 4909 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>497-19-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>= 4220 mg/kg (Rat)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>144-55-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms
Please see section 4 of this SDS for symptoms.

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

Serious eye damage/eye irritation
Causes serious eye irritation.

Carcinogenicity
Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

Oral LD50
4,141.00 mg/kg

ATEmix (inhalation-dust/mist)
1.50 mg/L
12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate</td>
<td>242: 120 h Nitzschia mg/L EC50</td>
<td>300: 96 h Lepomis macrochirous mg/L LC50 static</td>
<td>265: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>497-19-8</td>
<td></td>
<td>1220: 96 h Pimephales promelas mg/L LC50 static</td>
<td></td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>650: 120 h Nitzschia linearis mg/L EC50</td>
<td>8250 - 9000: 96 h Lepomis macrochirous mg/L LC50 static</td>
<td>2350: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>144-55-8</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility
Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate</td>
<td>Corrosive</td>
</tr>
<tr>
<td>497-19-8</td>
<td></td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

Note
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT
Not regulated

IATA
Not regulated

IMDG
Not regulated
15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
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<th>TSCA Inventory Status</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINCS</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium carbonate</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sodium Bicarbonate</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

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- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
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US Federal Regulations

**CERCLA**
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

**CWA (Clean Water Act)**
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

**California Proposition 65**
This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**
This product does not contain any substances regulated under applicable state right-to-know regulations

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>0</td>
<td>0</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

Issue Date: 15-Feb-2012
Revision Date: 12-Aug-2019
Revision Note: Regulatory review

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End of Safety Data Sheet
1. IDENTIFICATION

Product identifier
Product Name HYDRION COLOR KEY BUFFER PRESERVATIVE

Other means of identification
SDS # MEL-005R
UN/ID No UN1993

Recommended use of the chemical and restrictions on use
Recommended Use To prolong shelf life of buffer solution.

Details of the supplier of the safety data sheet
Supplier Address MICRO ESSENTIAL LABORATORY, INC
PO BOX 100824, 4224 AVENUE H
BROOKLYN, NY 11210

Emergency telephone number
Company Phone Number PHONE: 718-338-3618  FAX: 718-692-4491  (8:00AM TO 4:00PM EASTERN STANDARD TIME)
Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Red liquid
Physical state Liquid
Odor Odorless

Classification

<table>
<thead>
<tr>
<th>Hazard statement</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
</tbody>
</table>

Signal Word
Warning

Hazard statements
Causes serious eye irritation
Flammable liquid and vapor
Precautionary Statements - Prevention
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof equipment
Use only non-sparking tools
Take precautionary measures against static discharge

Precautionary Statements - Response
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
IN CASE OF FIRE: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage
Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol</td>
<td>67-63-0</td>
<td>10-15</td>
</tr>
</tbody>
</table>

**If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.**

4. FIRST AID MEASURES

Description of first aid measures

General Advice
Provide this SDS to medical personnel for treatment.

Eye Contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact
Wash affected areas thoroughly with soap and water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. Get medical attention if you feel unwell.

Ingestion
Drink plenty of water. Do not induce vomiting without medical advice. Call a physician.

Most important symptoms and effects, both acute and delayed

Symptoms
Prolonged exposure by inhalation may cause irritation of the nose, throat and respiratory tract. Irritating to eyes. Prolonged contact may cause skin irritation or allergic reaction. Ingestion can irritate stomach and cause mouth burns.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.
5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use CO2, dry chemical, or foam for extinction.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical
Flammable liquid and vapor. Toxic fumes may be given off when material is exposed to fire.

Hazardous combustion products Carbon oxides.

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. Do not release runoff from fire control methods to sewers or waterways.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Remove all sources of ignition. Use personal protective equipment as required. Keep unnecessary people away, isolate hazard area and deny entry. Restrict access to area until completion of clean-up. Ensure clean-up is conducted by trained personnel only.

For Emergency Responders Follow applicable OSHA regulations (29 CFR 1910.120).

Environmental precautions

Environmental precautions Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so. Contain with inert material.

Methods for Clean-Up Use clean non-sparking tools to collect absorbed material. Sweep up absorbed material and shovel into suitable containers for disposal. Discard any product, residue, disposable container or liner in full compliance with federal, state, and local regulations. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Wash face, hands and any exposed skin thoroughly after handling. Do NOT take internally. Avoid breathing dust/fume/gas/mist/vapors/spray. Keep container tightly closed. Keep cool. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Ground/bond container and receiving equipment. Use spark-proof tools and explosion-proof equipment. Use only with adequate ventilation. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep container tightly closed and store in a cool, dry and well-ventilated place. Avoid excessive temperatures & high humidity.

Incompatible Materials Hazardous reaction in aqueous solution may occur with chlorine, hypochlorus acid,
Hypochlorites, cyanides or sulfides.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol 67-63-0</td>
<td>STEL: 400 ppm</td>
<td>TWA: 400 ppm/TWA: 980 mg/m³</td>
<td>IDLH: 2000 ppm/TWA: 400 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 200 ppm</td>
<td>(vacated) TWA: 980 mg/m³</td>
<td>TWA: 980 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 500 ppm</td>
<td>STEL: 500 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) STEL: 1225 mg/m³³</td>
<td>STEL: 1225 mg/m³³</td>
</tr>
</tbody>
</table>

#### Appropriate engineering controls

**Engineering Controls**

Ensure adequate ventilation, especially in confined areas. Eyewash stations. Showers. Local exhaust ventilation recommended.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**

Refer to 29 CFR 1910.133 for eye and face protection regulations. Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with, contact lenses.

**Skin and Body Protection**

Wear chemically protective gloves, boots, aprons, and gauntlets to prevent prolonged or repeated skin contact.

**Respiratory Protection**

Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. WARNING!: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres. If respirators are used, OSHA requires a written respiratory program that includes at least: medical certification, training, fit-testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice. Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment. Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical state</strong></td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Red liquid</td>
<td>Odorless</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Red</td>
<td>Odor Threshold</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Melting point / freezing point</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point / boiling range</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td>34.72 °C / 94.5 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (Solid, Gas)</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limit in Air</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Upper flammability or explosive limits</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Lower flammability or explosive limits</strong></td>
<td>Not determined</td>
<td></td>
</tr>
</tbody>
</table>
Vapor Pressure  Not determined
Property  Values  Remarks  • Method
Vapor Density  Not determined
Relative Density  ~1.015  @ 60°F (ASTM D 1298)
Water Solubility  Miscible in water
Solubility in other solvents  Not determined
Partition Coefficient  Not determined
Autoignition temperature  Not determined
Decomposition temperature  Not determined
Kinematic viscosity  Not determined
Dynamic Viscosity  Not determined
Explosive Properties  Not determined
Oxidizing Properties  Not determined

10. STABILITY AND REACTIVITY

Reactivity
Not reactive under normal conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
See below - Incompatible Materials.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to Avoid
Heat, flames, ignition sources and incompatibles.

Incompatible materials
Hazardous reaction in aqueous solution may occur with chlorine, hypochlorus acid, hypochlorites, cyanides or sulfides.

Hazardous decomposition products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact
Causes serious eye irritation.

Skin Contact
Prolonged contact may cause redness and irritation.

Inhalation
May cause irritation if inhaled.

Ingestion
Can burn mouth, throat, and stomach.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol</td>
<td>= 1870 mg/kg ( Rat )</td>
<td>= 4059 mg/kg ( Rabbit )</td>
<td>= 72600 mg/m² ( Rat ) 4 h</td>
</tr>
<tr>
<td>67-63-0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>= 22 g/kg ( Rat ) = 28 g/kg ( Rat )</td>
<td>&gt; 20 g/kg ( Rabbit )</td>
<td>-</td>
</tr>
<tr>
<td>25322-68-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl Paraben</td>
<td>= 2100 mg/kg ( Rat )</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>99-76-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Symptoms related to the physical, chemical and toxicological characteristics

Symptoms
Please see section 4 of this SDS for symptoms.

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

Carcinogenicity
Group 3 IARC components are "not classifiable as human carcinogens".

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol</td>
<td>67-63-0</td>
<td>Group 3</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Legend
IARC (International Agency for Research on Cancer)
Group 3 IARC components are "not classifiable as human carcinogens"
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document.

Oral LD50  14,384.60 mg/kg
Dermal LD50  28,964.40 mg/kg
ATEmix (inhalation-dust/mist)  558.50 mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol</td>
<td>1000: 72 h Desmodesmus subspicatus mg/L EC50 1000: 96 h Desmodesmus subspicatus mg/L EC50</td>
<td>9640: 96 h Pimephales promelas mg/L LC50 flow-through 11130: 96 h Pimephales promelas mg/L LC50 static 1400000: 96 h Lepomis macrochirus µg/L LC50</td>
<td>13299: 48 h Daphnia magna mg/L EC50</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methyl Paraben</td>
<td>5000: 24 h Carassius auratus mg/L LC50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>99-76-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Persistence/Degradability
Not determined.

Bioaccumulation
There is no data for this product.

Mobility

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol</td>
<td>67-63-0</td>
</tr>
</tbody>
</table>

Other Adverse Effects
Not determined
13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Disposal should be in accordance with applicable regional, national and local laws and regulations.

California Hazardous Waste Status

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Hazardous Waste Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol 67-63-0</td>
<td>Toxic Ignitable</td>
</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

Note
Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

<table>
<thead>
<tr>
<th>UN/ID No</th>
<th>Proper Shipping Name</th>
<th>Hazard class</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (contains Isopropyl alcohol)</td>
<td>3</td>
<td>III</td>
</tr>
</tbody>
</table>

IATA

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper Shipping Name</th>
<th>Transport hazard class(es)</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (contains Isopropyl alcohol)</td>
<td>3</td>
<td>III</td>
</tr>
</tbody>
</table>

IMDG

<table>
<thead>
<tr>
<th>UN number</th>
<th>Proper Shipping Name</th>
<th>Transport hazard class(es)</th>
<th>Packing Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN1993</td>
<td>Flammable liquid, n.o.s. (contains Isopropyl alcohol)</td>
<td>3</td>
<td>III</td>
</tr>
</tbody>
</table>

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>TSCA</th>
<th>TSCA Inventory Status</th>
<th>DSL/NDSL</th>
<th>EINECS/ELINC</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Polyethylene glycol</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Methyl Paraben</td>
<td>X</td>
<td>ACTIVE</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Legend:
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINC - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances
US Federal Regulations

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

SARA 313

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>SARA 313 - Threshold Values %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol - 67-63-0</td>
<td>67-63-0</td>
<td>10-15</td>
<td>1.0</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isopropyl Alcohol 67-63-0</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA

<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Special Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td>0</td>
<td>Not determined</td>
</tr>
</tbody>
</table>

HMIS

<table>
<thead>
<tr>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>1</td>
<td></td>
<td>H</td>
</tr>
</tbody>
</table>

Issue Date: 06-Oct-2009
Revision Date: 12-Aug-2019
Revision Note: Regulatory review

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 Safety Data Sheet