1. Identification

Product identifier: YSI 1579 Carbonate Buffer Concentrate

Other means of identification: Not available.

Recommended use: Calibration of analytical instruments / Reagent.

Recommended restrictions: None known.

Manufacturer / Importer / Supplier / Distributor information:

- Company name: YSI, Inc
- Address: 1700/1725 Brannum Lane
- Telephone: (937) 767-7241
- E-mail: MSDSinfo@ysi.com

Emergency phone number:

- CHEMTREC (US/Canada): (800) 424-9300
- CHEMTREC (International): 011 703-527-3887

2. Hazard(s) identification

Physical hazards: Not classified.

Health hazards:
- Serious eye damage/eye irritation: Category 2
- Reproductive toxicity: Category 2

OSHA defined hazards: Not classified.

Label elements:

- Signal word: Warning
- Precautionary statement:
  - Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.
  - Response: If exposed or concerned: Get medical advice/attention.
  - Storage: Store locked up.
  - Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC): Not classified.

Supplemental information:

Not applicable.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Benzoate</td>
<td>532-32-1</td>
<td>&lt; 8</td>
</tr>
<tr>
<td>Sodium carbonate</td>
<td>497-19-8</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>Sodium bicarbonate</td>
<td>144-55-8</td>
<td>&lt; 7</td>
</tr>
<tr>
<td>Glycine, N,N'-1,2-ethanediylbis(N-carboxymethyl)dipotassium salt, dihydrate</td>
<td>25102-12-9</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Polyethyleneimine</td>
<td>9002-98-6</td>
<td>&lt; 5</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>&lt; 3</td>
</tr>
</tbody>
</table>
4. First-aid measures

Inhalation
- Move to fresh air. Oxygen or artificial respiration if needed. Call a physician if symptoms develop or persist.

Skin contact
- Wash off with soap and water. Get medical attention if irritation develops and persists.

Eye contact
- Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion
- Rinse mouth. Do not induce vomiting without advice from poison control center. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed
- Symptoms include itching, burning, redness, and tearing of eyes.

Indication of immediate medical attention and special treatment needed
- Provide general supportive measures and treat symptomatically.

General information
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media
- Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).

Unsuitable extinguishing media
- Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical
- During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
- Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions
- Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
- Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up
- Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

- Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

- Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.

Environmental precautions
- Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid contact during pregnancy/while nursing. Provide adequate ventilation. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities
- Store locked up. Store in a cool, dry, well-ventilated place. Keep container tightly closed. Store away from incompatible materials (See Section 10).

8. Exposure controls/personal protection

Occupational exposure limits
- No exposure limits noted for ingredient(s).

Biological exposure limits
- No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
- Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection
- Wear safety glasses with side shields (or goggles).
Skin protection
Hand protection
For prolonged or repeated skin contact use suitable protective gloves.
Other
Wear suitable protective clothing.
Respiratory protection
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards
Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties
Appearance
Physical state
Liquid.
Form
Liquid.
Color
Clear and colorless.
Odor
Odorless.
Odor threshold
Not available.
\( \text{pH} \)
6.5 - 7.5
Melting point/freezing point
Not available.
Initial boiling point and boiling range
212 °F (100 °C)
Flash point
Not available.
Evaporation rate
Not available.
Flammability (solid, gas)
Not available.
Upper/lower flammability or explosive limits
Flammability limit - lower (%)
Not available.
Flammability limit - upper (%)
Not available.
Explosive limit - lower (%)
Not available.
Explosive limit - upper (%)
Not available.
Vapor pressure
Not available.
Vapor density
Not available.
Relative density
> 1
Solubility(ies)
Infinitely soluble
Partition coefficient
(n-octanol/water)
Not available.
Auto-ignition temperature
Not available.
Decomposition temperature
Not available.
Viscosity
Not available.

10. Stability and reactivity
Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability
Material is stable under normal conditions.
Possibility of hazardous reactions
Polymerization will not occur.
Conditions to avoid
None known.
Incompatible materials
None known.
Hazardous decomposition products
No hazardous decomposition products are known.

11. Toxicological information
Information on likely routes of exposure
Ingestion
Do not ingest.
Inhalation
Do not inhale this material.
Skin contact: Avoid contact with skin.
Eye contact: Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics:
Symptoms include itching, burning, redness, and tearing of eyes.

Information on toxicological effects:

### Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium bicarbonate (CAS 144-55-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAL</td>
<td>LD50</td>
<td>Rat</td>
</tr>
<tr>
<td>Sodium carbonate (CAS 497-19-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INHALATION</td>
<td>LC50</td>
<td>Rat</td>
</tr>
<tr>
<td>ORAL</td>
<td>LD50</td>
<td>Rat</td>
</tr>
<tr>
<td>Sodium chloride (CAS 7647-14-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAL</td>
<td>LD50</td>
<td>Rat</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Serious eye damage/eye irritation: Causes serious eye irritation.
Respiratory sensitization: Due to lack of data the classification is not possible.
Skin sensitization: Based on available data, the classification criteria are not met.
Germ cell mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity: This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
Reproductive toxicity: Suspected of damaging fertility.
Specific target organ toxicity - single exposure: Based on available data, the classification criteria are not met.
Specific target organ toxicity - repeated exposure: Based on available data, the classification criteria are not met.
Aspiration hazard: Due to lack of data the classification is not possible.

### Ecotoxicity:
Not expected to be harmful to aquatic organisms.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Benzoate (CAS 532-32-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fathead minnow (Pimephales promelas)</td>
</tr>
<tr>
<td>Sodium bicarbonate (CAS 144-55-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus)</td>
</tr>
<tr>
<td>Sodium carbonate (CAS 497-19-8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Ceriodaphnia dubia)</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus)</td>
</tr>
<tr>
<td>Sodium chloride (CAS 7647-14-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna)</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Bluegill (Lepomis macrochirus)</td>
</tr>
</tbody>
</table>
Persistence and degradability: No data is available on the degradability of this product.
Bioaccumulative potential: No data available for this product.
Mobility in soil: Not available.
Other adverse effects: No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations
Disposal instructions: Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazardous waste code: The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products: Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information
DOT: Not regulated as a hazardous material by DOT.
IATA: Not regulated as a dangerous good.
IMDG: Not regulated as a dangerous good.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: This substance/mixture is not intended to be transported in bulk.

15. Regulatory information
US federal regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories: Immediate Hazard - Yes, Delayed Hazard - No, Fire Hazard - No, Pressure Hazard - No, Reactivity Hazard - No
SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: No
SARA 313 (TRI reporting): Not regulated.

Other federal regulations
Clean Air (CAA) Section 112 Hazardous Air Pollutants (HAPs) List: Not regulated.
Clean Air (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): Not regulated.
Food and Drug Administration (FDA): Not regulated.

US state regulations
US. Massachusetts RTK - Substance List: Not regulated.
**US. New Jersey Worker and Community Right-to-Know Act**  
Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**  
Not regulated.

**US. Rhode Island RTK**  
Not regulated.

**US. California Proposition 65**  
California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**  
Not listed.

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>No</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>No</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>No</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>No</td>
</tr>
</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. **Other information, including date of preparation or last revision**

- **Issue date**: 05-December-2013  
- **Revision date**: -  
- **Version #**: 01

**NFPA Ratings**

[Diagram of NFPA ratings with rating 2-0-0-0]

**Disclaimer**

The information in the sheet was written based on the best knowledge and experience currently available.