SAFETY DATA SHEET

1. Identification

Product identifier: YSI 2787 Ethanol Buffer Kit

Other means of identification
- Product code: 2787
- Recommended use: Analysis Standard/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
  (Collect calls accepted)

2. Hazard(s) identification

Physical hazards: Not classified.

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

OSHA defined hazards: Not classified.

Label elements

- Signal word: Warning
- Hazard statement: Causes serious eye irritation. Suspected of damaging fertility or the unborn child.
- 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 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 exposed or concerned: Call a poison center/doctor.
  - Storage: Store locked up.
  - Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

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 phosphate dibasic</td>
<td>7558-79-4</td>
<td>60 - 65</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>16 - 22</td>
</tr>
<tr>
<td>Potassium EDTA</td>
<td>25102-12-9</td>
<td>&lt; 10</td>
</tr>
<tr>
<td>Sodium Benzoate</td>
<td>532-32-1</td>
<td>&lt; 10</td>
</tr>
</tbody>
</table>
4. First-aid measures

Inhalation
If dust from the material is inhaled, remove the affected person immediately to fresh air. 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. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed
Causes serious eye irritation. 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. Keep victim under observation. Symptoms may be delayed.

General information
If exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media
Water fog. Foam. 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 water spray to cool unopened containers.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards
No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid inhalation of dust from the spilled material. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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
This product is miscible in water. Stop the flow of material, if this is without risk. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Collect dust using a vacuum cleaner equipped with HEPA filter. Minimize dust generation and accumulation. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. 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. Provide appropriate exhaust ventilation at places where dust is formed. Minimize dust generation and accumulation. Avoid breathing dust. Avoid contact with eyes. Should be handled in closed systems, if possible. Pregnant or breastfeeding women must not handle this product. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities
Store locked up. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).
8. Exposure controls/personal protection

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

Biological limit values
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. Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection
Safety glasses with side-shields.

Skin protection
Hand protection
Wear appropriate chemical resistant gloves.

Other
Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection
If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
When using, do not eat, drink or smoke. 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
Solid.
Form
Powder.
Color
White.
Odor
Mild odor.
Odor threshold
Not available.

pH
6.5 - 7.5

Melting point/freezing point
> 500 °F (> 260 °C)

Initial boiling point and boiling range
Not available.

Flash point
Not applicable.

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 applicable.

Vapor density
Not applicable.

Relative density
> 1

Solubility(ies)
Solubility (water)
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
No dangerous reaction known under conditions of normal use.

Conditions to avoid
Contact with incompatible materials. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
Phosphorus oxides.

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. May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility based on animal data.

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 acid phosphate (CAS 7558-80-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>&gt; 7940 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Mouse</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>8290 mg/kg</td>
</tr>
<tr>
<td>Sodium chloride (CAS 7647-14-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>3000 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium phosphate dibasic (CAS 7558-79-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>17 g/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
Not classified.

Serious eye damage/eye irritation
Causes serious eye irritation.

Respiratory or skin sensitization

Respiratory sensitization
No data available.

Skin sensitization
Not a skin sensitizer.

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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not listed.

Reproductive toxicity
Suspected of damaging fertility or the unborn child.

Specific target organ toxicity - single exposure
Not classified.
Specific target organ toxicity - repeated exposure  Not classified.
Aspiration hazard  No data available.
Chronic effects  May cause adverse reproductive effects - such as birth defects, miscarriages, or infertility.

12. Ecological information

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 acid phosphate (CAS 7558-80-7) Aquatic</td>
<td>Fish</td>
<td>LC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Western mosquitofish (Gambusia affinis)</td>
</tr>
<tr>
<td>Sodium Benzoate (CAS 532-32-1)   Aquatic</td>
<td>Fish</td>
<td>LC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fathead minnow (Pimephales promelas)</td>
</tr>
<tr>
<td>Sodium chloride (CAS 7647-14-5)  Aquatic</td>
<td>Crustacea</td>
<td>EC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Water flea (Daphnia magna)</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  Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations  Dispose in accordance with all applicable 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  Dispose of in accordance with local regulations. 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 dangerous goods.
IATA  Not regulated as dangerous goods.
IMDG  Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  Not applicable.

15. Regulatory information

US federal regulations  This product is a “Hazardous Chemical” as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)
Sodium phosphate dibasic (CAS 7558-79-4) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Delayed Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Pressure Hazard</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td>Reactivity Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Yes

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations

- Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
  Not regulated.
- Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
  Not regulated.
- Safe Drinking Water Act (SDWA)
  Not regulated.

US state regulations

- US. Massachusetts RTK - Substance List
  Sodium phosphate dibasic (CAS 7558-79-4)
- US. New Jersey Worker and Community Right-to-Know Act
  Sodium phosphate dibasic (CAS 7558-79-4)
- US. Pennsylvania Worker and Community Right-to-Know Law
  Sodium phosphate dibasic (CAS 7558-79-4)
- US. Rhode Island RTK
  Sodium phosphate dibasic (CAS 7558-79-4)
- 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>Yes</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>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</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          11-July-2014
Disclaimer

YSI, Inc cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use.