1. Identification

Product identifier: YSI 2357 Buffer Concentrate Kit

Other means of identification:
Product code: 2357

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: 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): None known.

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 phosphate dibasic</td>
<td>7558-79-4</td>
<td>50 - 55</td>
</tr>
<tr>
<td>Sodium chloride</td>
<td>7647-14-5</td>
<td>16 - 22</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.

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. 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.

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

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 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. 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
Solid.

Form
Powder.

Color
White

Odor
Mild odor.

Odor threshold
No data available.

pH
6.5 - 7.5

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

Initial boiling point and boiling range
No data available.

Flash point
Not applicable.

Evaporation rate
No data available.

Flammability (solid, gas)
No data available.

Upper/lower flammability or explosive limits
Flammability limit - lower (%)
No data available.

Flammability limit - upper (%)
No data available.

Explosive limit - lower (%)
No data available.

Explosive limit - upper (%)
No data available.

Vapor pressure
Not applicable.

Vapor density
Not applicable.

Relative density
> 1

Solubility(ies)

Solubility (water)
Soluble.

Partition coefficient (n-octanol/water)
Not determined.

Auto-ignition temperature
No data available.

Decomposition temperature
No data available.

Viscosity
Not applicable.

Other information
Density
No data 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
Strong acids. 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 Dermal</td>
<td>Rabbit</td>
<td>&gt; 7940 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td></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 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>
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<td></td>
</tr>
<tr>
<td>Acute 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.

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.

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)</td>
<td>Aquatic</td>
<td>LC50</td>
</tr>
<tr>
<td>Sodium Benzoate (CAS 532-32-1)</td>
<td>Aquatic</td>
<td>LC50</td>
</tr>
<tr>
<td>Sodium chloride (CAS 7647-14-5)</td>
<td>Aquatic</td>
<td>EC50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>LC50</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 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. One or more components are not listed on TSCA.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

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

CERCLA Hazardous Substance List (40 CFR 302.4)
Sodium phosphate dibasic (CAS 7558-79-4) LISTED
Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate Hazard: Yes
- Delayed Hazard: Yes
- Fire Hazard: No
- Pressure Hazard: No
- Reactivity Hazard: No

SARA 302 Extremely hazardous substance
- Not listed.

SARA 311/312 Hazardous chemical
- No

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 03-June-2014
Revision date -
Version # 01
HMIS® ratings

Health: 1
Flammability: 0
Physical hazard: 0

NFPA Ratings

Disclaimer

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