1. Identification

Product identifier: YSI Zobell Solution 061320, 061321, 061322

Other means of identification: Not available.

Recommended use: Calibration of analytical instruments / Reagent. 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: Not classified.
OSHA defined hazards: Not classified.

Label elements

Hazard symbol: None.
Signal word: None.
Hazard statement: The mixture does not meet the criteria for classification.

Precautionary statement

Prevention: Observe good industrial hygiene practices.
Response: Wash hands after handling.
Storage: Store away from incompatible materials.
Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

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

Environmental hazards: Hazardous to the aquatic environment, acute hazard Category 3
Hazardous to the aquatic environment, long-term hazard Category 3

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chloride</td>
<td>7447-40-7</td>
<td>72 - 78</td>
</tr>
<tr>
<td>Potassium ferricyanide</td>
<td>13746-66-2</td>
<td>10 - 15</td>
</tr>
<tr>
<td>Potassium ferrocyanide trihydrate</td>
<td>14459-95-1</td>
<td>10 - 15</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: Rinse with water. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.
5. Fire-fighting measures

| Suitable extinguishing media                  | Water fog. Foam. Dry chemical powder. |
| Unsuitable extinguishing media                | Carbon dioxide (CO2).                  |
| Specific hazards arising from the chemical    | During fire, gases hazardous to health may be formed. Hydrochloric acid. Hydrogen cyanide. |
| 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         | In the event of fire, cool tanks with water spray. Water runoff can cause environmental damage. |
| Specific methods                             | Cool containers exposed to flames with water until well after the fire is out. |

6. Accidental release measures

| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Avoid inhalation of dust from the spilled material. Ensure adequate ventilation. Wear appropriate personal protective equipment. 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               | Minimize dust generation and accumulation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS. |
| Environmental precautions                                         | Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

| Precautions for safe handling                                     | Minimize dust generation and accumulation. Do not breathe dust. Ensure adequate ventilation. Avoid contact with eyes, skin, and clothing. Observe good industrial hygiene practices. |
| Conditions for safe storage, including any incompatibilities      | Keep container tightly closed. Store in a well-ventilated place. Guard against dust accumulation of this material. |

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                                  | Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing. |
| Individual protection measures, such as personal protective equipment | Use tight fitting goggles if dust is generated. |
| Eye/face protection                                                | For prolonged or repeated skin contact use suitable protective gloves. |
| Skin protection                                                    | Wear suitable protective clothing. |
| Hand protection                                                    | Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. |
| Respiratory protection                                             | Wear appropriate thermal protective clothing, when necessary. |
| Thermal hazards                                                    | 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

<table>
<thead>
<tr>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
</tr>
<tr>
<td>Form</td>
</tr>
<tr>
<td>Color</td>
</tr>
<tr>
<td>Odor</td>
</tr>
<tr>
<td>Odor threshold</td>
</tr>
<tr>
<td>pH</td>
</tr>
</tbody>
</table>
Melting point/freezing point  Not available.
Initial boiling point and boiling range  Not available.
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  Not available.
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  No dangerous reaction known under conditions of normal use.
Conditions to avoid  Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air).
Incompatible materials  Strong oxidizing agents. Strong acids.

11. Toxicological information
Information on likely routes of exposure
  Ingestion  Do not ingest.
  Inhalation  Inhalation of dusts may cause respiratory irritation.
  Skin contact  Avoid contact with skin.
  Eye contact  Dust in the eyes will cause irritation.
Symptoms related to the physical, chemical and toxicological characteristics  Direct contact with eyes may cause temporary irritation.

Information on toxicological effects
Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chloride (CAS 7447-40-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>2600 mg/kg</td>
</tr>
<tr>
<td>Potassium ferricyanide (CAS 13746-66-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>4520 mg/kg</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation  Due to lack of data the classification is not possible.
**Serious eye damage/eye irritation**
Dust in the eyes will cause irritation.

**Respiratory sensitization**
Due to lack of data the classification is not possible.

**Skin sensitization**
Due to lack of data the classification is not possible.

**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**
Due to lack of data the classification is not possible.

**Specific target organ toxicity - single exposure**
Due to lack of data the classification is not possible.

**Specific target organ toxicity - repeated exposure**
Due to lack of data the classification is not possible.

**Aspiration hazard**
Due to lack of data the classification is not possible.

### 12. Ecological information

**Ecotoxicity**
Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potassium chloride (CAS 7447-40-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 83 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Western mosquitofish (Gambusia affinis) 435 mg/l, 96 hours</td>
</tr>
<tr>
<td>Potassium ferricyanide (CAS 13746-66-2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Guppy (Poecilia reticulata) 19 mg/l, 96 hours</td>
</tr>
<tr>
<td>Potassium ferrocyanide trihydrate (CAS 14459-95-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Rainbow trout, donaldson trout (Oncorhynchus mykiss) 28.7 - 37.9 mg/l, 96 hours</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**
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.

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

CERCLA Hazardous Substance List (40 CFR 302.4)  
Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)  
**Hazard categories**  
Immediate Hazard - No  
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 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.

**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  
**Country(s) or region**  
Australia  
Canada  
Canada  
China  
Europe  
Europe  
Japan  
Korea  
New Zealand  
Philippines  
United States & Puerto Rico

**Inventory name**  
Australian Inventory of Chemical Substances (AICS)  
Domestic Substances List (DSL)  
Non-Domestic Substances List (NDSL)  
Inventory of Existing Chemical Substances in China (IECSC)  
European Inventory of Existing Commercial Chemical Substances (EINECS)  
European List of Notified Chemical Substances (ELINCS)  
Inventory of Existing and New Chemical Substances (ENCS)  
Existing Chemicals List (ECL)  
New Zealand Inventory  
Philippine Inventory of Chemicals and Chemical Substances (PICCS)  
Toxic Substances Control Act (TSCA) Inventory

**On inventory (yes/no)**  
Yes  
Yes  
No  
Yes  
Yes  
No  
Yes  
Yes  
Yes  
Yes

*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

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