SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Name of the substance: YSI 2363 Potassium Ferrocyanide
Identification number: 14459-95-1 (CAS number)
Registration number: -
Synonyms: None.
Product code: YSI 2363
Issue date: 20-March-2015
Version number: 01
Revision date: -
Supersedes date: -

1.2. Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Analysis Standard/Reagent
Uses advised against: None known.

1.3. Details of the supplier of the safety data sheet
Supplier:
Company name: YSI, a Xylem brand
Address:
1700/1725 Brannum Lane
Yellow Springs, Ohio 45387
United States
Division
Telephone: (937) 767-7241

1.4. Emergency telephone number
CHEMTREC (US/Canada) (800) 424-9300
CHEMTREC (International) 011 703-527-3887 (Collect calls accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture
The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended
Classification: R52/53

Classification according to Regulation (EC) No 1272/2008 as amended

Environmental hazards
<table>
<thead>
<tr>
<th>Hazardous to the aquatic environment, long-term aquatic hazard</th>
<th>Category 3</th>
</tr>
</thead>
</table>

H412 - Harmful to aquatic life with long lasting effects.

Hazard summary
Physical hazards: Not classified for physical hazards.
Health hazards: Not classified for health hazards. However, occupational exposure to the mixture or substance(s) may cause adverse health effects.
Environmental hazards: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards: For additional information on inhalation hazards, see Section 11 of this safety data sheet.
Main symptoms: Direct contact with eyes may cause temporary irritation. Dust may irritate respiratory system.

2.2. Label elements
Label according to Regulation (EC) No. 1272/2008 as amended
Hazard pictograms: None.
Signal word: None.
Hazard statements

H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention
Observe good industrial hygiene practices.

Response
Wash hands after handling.

Storage
Store away from incompatible materials.

Disposal
Dispose of waste and residues in accordance with local authority requirements.

Supplemental label information
Not applicable.

2.3. Other hazards
Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.1. Substances

General information

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>%</th>
<th>CAS-No. / EC No.</th>
<th>REACH Registration No.</th>
<th>INDEX No.</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>POTASSIUM FERROCYANIDE</td>
<td>90-100</td>
<td>14459-95-1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>TRIHYDRATE</td>
<td></td>
<td>237-722-2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Classification:
- DSD: R52/53
- CLP: Aquatic Chronic 3; H412

Supplemental label information

List of abbreviations and symbols that may be used above
- DSD: Directive 67/548/EEC.
- vPvB: very persistent and very bioaccumulative substance.
- PBT: persistent, bioaccumulative and toxic substance.

SECTION 4: First aid measures

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

4.1. Description of first aid measures

Inhalation
If dust from the material is inhaled, remove the affected person immediately to fresh air.

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.

4.2. Most important symptoms and effects, both acute and delayed

Direct contact with eyes may cause temporary irritation. Dust may irritate respiratory system.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards
No unusual fire or explosion hazards noted.

5.1. Extinguishing media

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.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

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

Special fire fighting procedures
Use water spray to cool unopened containers.

Specific methods
Use standard firefighting procedures and consider the hazards of other involved materials.
SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Keep unnecessary personnel away.

For emergency responders
Keep unnecessary personnel away.

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

6.3. Methods and material for containment and cleaning up
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. Minimise dust generation and accumulation. Following product recovery, flush area with water. Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4. Reference to other sections
For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid breathing dust. Avoid contact with skin and eyes. Avoid prolonged exposure. In case of insufficient ventilation, wear suitable respiratory equipment. Practice good housekeeping.

7.2. Conditions for safe storage, including any incompatibilities
Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s)
Analysis Standard/Reagent

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits
Czech Republic. OELs. Government Decree 361

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>YSI 2363 Potassium Ferrocyanide Components</td>
<td>TWA</td>
<td>10 mg/m3</td>
</tr>
</tbody>
</table>

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>YSI 2363 Potassium Ferrocyanide Components</td>
<td>TWA</td>
<td>4 mg/m3</td>
</tr>
</tbody>
</table>

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

Recommended monitoring procedures
Follow standard monitoring procedures.

Derived no-effect level (DNEL)
Not available.

Predicted no effect concentrations (PNECs)
Not available.

8.2. Exposure controls

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

General information
Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection
Use tight fitting goggles if dust is generated.

Skin protection
- Hand protection
For prolonged or repeated skin contact use suitable protective gloves.
- Wear suitable protective clothing.
- Respirator must be worn if exposed to dust.
- Wear appropriate thermal protective clothing, when necessary.
- 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.
- Environmental manager must be informed of all major releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance
- Physical state: Solid.
- Form: Powder.
- Colour: White

Odour
- None.
- Odour threshold: No data available.
- pH: 6.5 - 7.5
- Melting point/freezing point: 70 °C (158 °F)
- 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.

Vapour pressure
- Not applicable.

Vapour density
- Not applicable.

Relative density
- 1.85

Solubility(ies)
- Infinitely soluble in water.

Partition coefficient (n-octanol/water)
- No data available.

Auto-ignition temperature
- No data available.

Decomposition temperature
- No data available.

Viscosity
- Not applicable.

Explosive properties
- No data available.

Oxidizing properties
- No data available.

9.2. Other information

Density
- No data available.

Molecular formula
- C6FeN6.3H2O.4K

SECTION 10: Stability and reactivity

10.1. Reactivity
- The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability
- Material is stable under normal conditions.

10.3. Possibility of hazardous reactions
- Hazardous polymerisation does not occur.

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

10.5. Incompatible materials
- Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products
- Nitrogen oxides (NOx). Hydrogen cyanide.
SECTION 11: Toxicological information

General information
Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation
Inhalation of dusts may cause respiratory irritation.

Skin contact
No adverse effects due to skin contact are expected.

Eye contact
Dust in the eyes will cause irritation.

Ingestion
Expected to be a low ingestion hazard.

Symptoms
Direct contact with eyes may cause temporary irritation. Dust may irritate respiratory system.

11.1. Information on toxicological effects

Acute toxicity
Not expected to be acutely toxic.

Skin corrosion/irritation
Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation
Dust in the eyes will cause irritation.

Respiratory sensitisation
This product is not expected to cause respiratory sensitization.

Skin sensitisation
This product is not expected to cause skin sensitisation.

Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
Not classifiable as to carcinogenicity to humans.

Reproductive toxicity
This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
Not classified.

Specific target organ toxicity - repeated exposure
Not classified.

Aspiration hazard
Not relevant, due to the form of the product.

Mixture versus substance information
No information available.

Other information
Not available.

SECTION 12: Ecological information

12.1. Toxicity
Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test results</th>
</tr>
</thead>
<tbody>
<tr>
<td>YSI 2363 Potassium Ferrocyanide</td>
<td>Aquatic Fish</td>
<td>LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss)</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability
No data is available on the degradability of this product.

12.3. Bioaccumulative potential
No data available.

Partition coefficient, n-octanol/water (log Kow)
Not available.

Bioconcentration factor (BCF)
Not available.

12.4. Mobility in soil
This product is water soluble and may disperse in soil.

12.5. Results of PBT and vPvB assessment
Not a PBT or vPvB substance or mixture.

12.6. 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.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste
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.
**EU waste code**
The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Disposal methods/information**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

**Special precautions**
Dispose in accordance with all applicable regulations.

**SECTION 14: Transport information**

**ADR**
Not regulated as dangerous goods.

**RID**
Not regulated as dangerous goods.

**ADN**
Not regulated as dangerous goods.

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable.

**SECTION 15: Regulatory information**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EU regulations**
- Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I
  Not listed.
- Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II
  Not listed.
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended
  Not listed.
- Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended
  Not listed.
- Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry
  Not listed.
- Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA
  Not listed.

**Authorisations**
- Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended
  Not listed.

**Restrictions on use**
- Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended
  Not listed.
- Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work
  Not listed.
- Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding
  Not listed.

**Other EU regulations**
- Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances
  Not listed.
- Directive 94/33/EC on the protection of young people at work
  Not listed.
<table>
<thead>
<tr>
<th>Other regulations</th>
<th>The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.</th>
</tr>
</thead>
<tbody>
<tr>
<td>National regulations</td>
<td>Follow national regulation for work with chemical agents.</td>
</tr>
<tr>
<td>15.2. Chemical safety assessment</td>
<td>No Chemical Safety Assessment has been carried out.</td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

<table>
<thead>
<tr>
<th>List of abbreviations</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>References</td>
<td>Not available.</td>
</tr>
<tr>
<td>Information on evaluation method leading to the classification of mixture</td>
<td>The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.</td>
</tr>
<tr>
<td>Full text of any statements or R-phrases and H-statements under Sections 2 to 15</td>
<td>R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. H412 Harmful to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>Training information</td>
<td>Follow training instructions when handling this material.</td>
</tr>
<tr>
<td>Disclaimer</td>
<td>The information in the sheet was written based on the best knowledge and experience currently available.</td>
</tr>
</tbody>
</table>