# SAFETY DATA SHEET

Redox standard +250 mV

## Section 1. Identification

**GHS product identifier** : Redox standard +250 mV

**Other means of identification** : Not available.

**Product use** : Laboratory chemicals.

**Supplier's details** :

Manufacturer
**Metrohm AG**
Ionenstrasse
9100 Herisau
Switzerland
Tel.: +41 (0)71 353 85 85
Fax: +41 (0)71 353 89 01
E-Mail: info@metrohm.com
Web: www.metrohm.com

Supplier
**Metrohm USA, Inc.**
9250 Camden Field Parkway
Riverview, FL 33578
USA

Tel.: +1 (813) 316 4700
Fax: +1 (813) 316 4900
E-Mail: info@metrohmusa.com

**e-mail address of person responsible for this SDS** : datasheet@metrohm.com

**Emergency telephone number (with hours of operation)** : USA Domestic: 1 800 535 5053; International: (001) 352 323 3500 (24 h, GBK / Infofrac ID 108225)

## Section 2. Hazards identification

**OSHA/HCS status** : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

**Classification of the substance or mixture** : Not classified.

**GHS label elements**

**Signal word** : No signal word.

**Hazard statements** : No known significant effects or critical hazards.

**Precautionary statements**

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

**Disposal** : Not applicable.

# Section 2. Hazards identification

**Hazards not otherwise classified** : None known.

**Hazards identified when used** : No known significant effects or critical hazards.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

| Ingredient name | Synonyms | % | Identifiers |
|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate,(OC-6-11)- | Ferrate(4-), hexacyano-, tetrapotassium, trihydrate; Potassium hexacyanoferrate(II), trihydrate; Tetrapotassium hexacyanoferrate, trihydrate; Ferrate(4-), hexakis(cyano-. kappa.C)-, tetrapotassium, trihydrate, (OC-6-11)-; tetrapotassium hexacyanoferrate trihydrate; potassium ferrocyanide trihydrate; Potassium hexacyanoferrate trihydrate; POTASSIUM HEXACYANOFERRATE II, TRIHYDRATE; Potassium Hexacyanoferrate; POTASSIUM FERROCYANIDE, TRIHYDRATE; potassium hexacyanoferrate (II) trihydrate | ≥1 - ≤5 | CAS: 14459-95-1 |
| tripotassium hexacyanoferrate | Ferrate(3-), hexakis(cyano-. kappa.C)-, potassium (1:3), (OC-6-11)-; Ferrate(3-), hexakis (cyano-C)-, tripotassium, (OC-6-11)-; Potassium ferricyanide; Ferrate(3-), hexakis(cyano-. kappa.C)-, tripotassium, (OC-6-11)-; Ferrate(3-), hexacyano-, tripotassium; (OC-6-11)-Hexakis (cyano-kappac)ferrate(3-) potassium (1:3); (OC-6-11)-Tripotassium hexakis(cyano-c) ferrate(3-); Iron potassium cyanide; Potassium ferricyanate; Potassium cyanoferrate; Tripotassium hexacyanoferrate (-3) | ≥1 - ≤5 | CAS: 13746-66-2 |
| disodium hydrogenorthophosphate | Phosphoric acid, sodium salt (1: 2); Phosphoric acid, disodium salt; Dibasic sodium phosphate; DISODIUM PHOSPHATE; Disodium, hydrogen phosphate; Sodium phosphate, dibasic; Sodium, monohydrogen phosphate; DISODIUM HYDROGEN PHOSPHATE; E 339 (ii); secondary sodium phosphate; disodium orthophosphate; disodium | ≥0.5 - ≤1.5 | CAS: 7558-79-4 |

# Section 3. Composition/information on ingredients

| | | | |
|---|---|---|---|
| | hydrogen orthophosphate; disodium hydrogen monophosphate; disodium monophosphate | | |
| potassium dihydrogenorthophosphate | Phosphoric acid, potassium salt (1:1); Phosphoric acid, monopotassium salt; Monopotassium dihydrogen phosphate; Potassium acid phosphate; POTASSIUM PHOSPHATE; Potassium phosphate, monobasic; POTASSIUM DIHYDROGEN PHOSPHATE; E 340 (i); monobasic potassium phosphate; monopotassium orthophosphate; monopotassium dihydrogen monophosphate; potassium dihydrogen monophosphate; monopotassium phosphate; monopotassium monophosphate | ≥0.1 - ≤1 | CAS: 7778-77-0 |
| sodium hydroxide | caustic soda; Sodium hydroxide (Na(OH)); Sodium hydrate; Soda lye; Lye; sodium hydroxide, solid; sodium hydroxide, in aqueous solution; caustic soda, solid; caustic soda, in aqueous solution | ≤0.1 | CAS: 1310-73-2 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

## Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

**Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

**Eye contact** : No specific data.

# Section 4. First aid measures

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use dry chemical, $CO_2$, water spray (fog) or foam. Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

# Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods and materials for containment and cleaning up**

**Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

# Section 6. Accidental release measures

**Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Dispose of via a licensed waste disposal contractor. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8).

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

# Section 8. Exposure controls/personal protection

## Control parameters

### Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate,(OC-6-11)- | **OSHA PEL (United States, 5/2018) [Cyanides]** Absorbed through skin.<br>TWA 8 hours: 5 mg/m³ (as CN).<br>**OSHA PEL 1989 (United States, 3/1989) [Cyanides (as CN)]** Absorbed through skin.<br>TWA 8 hours: 5 mg/m³ (as CN).<br>**ACGIH TLV (United States, 1/2024) [Cyanide salts]** Absorbed through skin.<br>C: 5 mg/m³. |
| tripotassium hexacyanoferrate | **NIOSH REL (United States, 10/2020) [iron salts]**<br>TWA 10 hours: 1 mg/m³ (as Fe).<br>**CAL OSHA PEL (United States, 5/2018) [iron salts, soluble]**<br>TWA 8 hours: 1 mg/m³ (as Fe).<br>**OSHA PEL (United States, 5/2018) [Cyanides]** Absorbed through skin.<br>TWA 8 hours: 5 mg/m³ (as CN).<br>**OSHA PEL 1989 (United States, 3/1989) [Cyanides (as CN)]** Absorbed through skin.<br>TWA 8 hours: 5 mg/m³ (as CN).<br>**OSHA PEL 1989 (United States, 3/1989) [Iron salts (soluble) (as Fe)]**<br>TWA 8 hours: 1 mg/m³ (as Fe). Form: Soluble.<br>**ACGIH TLV (United States, 1/2024) [Iron salts, soluble]**<br>TWA 8 hours: 1 mg/m³ (as Fe).<br>**ACGIH TLV (United States, 1/2024) [Cyanide salts]** Absorbed through skin. |

# Section 8. Exposure controls/personal protection

| | |
|---|---|
| | C: 5 mg/m³. |
| disodium hydrogenorthophosphate | None. |
| potassium dihydrogenorthophosphate | None. |
| sodium hydroxide | **NIOSH REL (United States, 10/2020)**<br>CEIL: 2 mg/m³.<br>**CAL OSHA PEL (United States, 5/2018)**<br>C: 2 mg/m³.<br>**OSHA PEL (United States, 5/2018)**<br>TWA 8 hours: 2 mg/m³.<br>**OSHA PEL 1989 (United States, 3/1989)**<br>CEIL: 2 mg/m³.<br>**ACGIH TLV (United States, 1/2024)**<br>C: 2 mg/m³. |

**Biological exposure indices**

None known.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

**Individual protection measures**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

**Skin protection**

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
**Recommended:** Ensure an MSHA/NIOSH-approved respirator or equivalent is used.

# Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**Appearance**

**Physical state** : Liquid.

**Color** : Yellow.

**Odor** : Odorless.

**Odor threshold** : Not applicable.

**pH** : 7

**Melting point/freezing point** : Not available.

**Boiling point or initial boiling point and boiling range** : Not available.

**Flash point** : Not available.

**Evaporation rate** : Not available.

**Flammability** : Not available.

**Lower and upper explosion limit/flammability limit** : Not available.

**Vapor pressure** : Not available.

**Relative vapor density** : Not available.

**Relative density** : Not available.

**Density** : 1.06473 g/cm³ [20°C (68°F)]

**Solubility in water** : Not available.

**Partition coefficient: n-octanol/water** : Not applicable.

**Auto-ignition temperature** : Not available.

**Decomposition temperature** : Not available.

**Viscosity** : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.

**Explosive properties** : Not available.

**Oxidizing properties** : Not available.

**Particle characteristics**

**Median particle size** : Not applicable.

# Section 10. Stability and reactivity

**Reactivity** : No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : The product is stable.

**Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.

**Conditions to avoid** : Keep away from heat, sparks and flame.

**Incompatible materials** : No specific data.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result and Species | Dose [Exposure] | Remarks |
|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate, (OC-6-11)- | Oral - Rat - LD50 | 3613 mg/kg | - |
| tripotassium hexacyanoferrate | Oral - Rat - LD50 [OECD 401] | >5110 mg/kg | - |
| | Dermal - Rat - Male, Female - LD50 [OECD 402] | >2000 mg/kg | - |
| disodium hydrogenorthophosphate | Oral - Rat - Female - LD50 [OECD 420] | >2000 mg/kg | - |
| | Dermal - Rat - Male, Female - LD50 [OECD 402] | >2000 mg/kg | - |
| | Inhalation - Rat - Male, Female - LC50 Dusts and mists [OECD 403] | >0.83 mg/l [4 hours] | Mortality: None. |
| potassium dihydrogenorthophosphate | Oral - Rat - Female - LD50 [OECD 420] | >2000 mg/kg | test substance: CAS no. 7758-11-4 (read-across) |
| | Dermal - Rabbit - Male, Female - LD50 [OECD 402] | >2000 mg/kg | - |
| | Inhalation - Rat - Male, Female - LC50 Vapor [OECD 403] | >0.83 mg/l [4 hours] | test substance: CAS no. 7558-80-7 (read-across) |

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

### Irritation/Corrosion

| Product/ingredient name | Result and Species | Exposure | Remarks |
|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate, (OC-6-11)- | Skin - Rabbit - Not irritant - [OECD 404] | - | - |
| | Eyes - Rabbit - Mild irritant - [OECD 405] | - | - |
| tripotassium hexacyanoferrate | Skin - Human - Not irritant - [OECD 439] | - | - |
| | Eyes - Rabbit - Irritant - [OECD 405] | - | - |
| disodium hydrogenorthophosphate | Skin - Rabbit - Not irritant - [OECD 404] | Duration of treatment/ exposure: 24 hours | - |
| | Eyes - Rabbit - Not irritant - [OECD 405] | Duration of treatment/ exposure: 0.5 minutes | - |
| potassium dihydrogenorthophosphate | Skin - Rabbit - Not irritant - [Draize Test] | Duration of treatment/ exposure: 4 hours | - |
| | Eyes - Rabbit - Not irritant - [Draize Test] | Duration of treatment/ exposure: 0.5 minutes | - |

**Conclusion/Summary**

**Skin** : Based on available data, the classification criteria are not met.

# Section 11. Toxicological information

**Eyes** : Based on available data, the classification criteria are not met.

**Respiratory** : Not available.

**Respiratory or skin sensitization**

| Product/ingredient name | Route of exposure and Species | Result | Remarks |
|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate, (OC-6-11)- | Respiratory - Guinea pig | Not sensitizing | - |
| | skin - Guinea pig | Not sensitizing | - |
| tripotassium hexacyanoferrate | skin - Mouse [OECD 429] | Not sensitizing | - |
| disodium hydrogenorthophosphate | skin - Mouse [OECD 429] | Not sensitizing | - |

**Conclusion/Summary**

**Skin** : Based on available data, the classification criteria are not met.

**Respiratory** : Based on available data, the classification criteria are not met.

**Mutagenicity**

| Product/ingredient name | Result | Experiment | Remarks |
|---|---|---|---|
| tripotassium hexacyanoferrate | Negative [OECD 471] | Bacteria | Salmonella typhimurium |
| disodium hydrogenorthophosphate | Negative [OECD 487] | Mammalian-Human | - |
| | Negative | In vitro - Mouse | - |
| | Negative [OECD 473] | In vitro - Mammalian-Human | - |
| potassium dihydrogenorthophosphate | Negative [OECD 487] | In vitro - Mammalian-Human | Micronucleus-test |
| | Negative | In vitro - Mammalian-Animal | - |

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

**Carcinogenicity**

**Conclusion/Summary** : Not available.

**Reproductive toxicity**

**Conclusion/Summary** : Not available.

**Teratogenicity**

**Conclusion/Summary** : Not available.

**Specific target organ toxicity (single exposure)**

Not available.

**Specific target organ toxicity (repeated exposure)**

Not available.

**Aspiration hazard**

Not available.

**Information on the likely routes of exposure** : Not available.

**Potential acute health effects**

**Eye contact** : No known significant effects or critical hazards.

# Section 11. Toxicological information

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : No known significant effects or critical hazards.

**Ingestion** : No known significant effects or critical hazards.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : No specific data.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

**Delayed and immediate effects and also chronic effects from short and long term exposure**

**Short term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Long term exposure**

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

**Potential chronic health effects**

Not available.

**Conclusion/Summary** : Not available.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

**Numerical measures of toxicity**

**Acute toxicity estimates**

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate,(OC-6-11)- | 3613 | N/A | N/A | N/A | N/A |

# Section 12. Ecological information

**Toxicity**

| Product/ingredient name | Result [Exposure] | Species | Remarks |
|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate, (OC-6-11)- | Acute - EC50<br>32 mg/l [48 hours] | Daphnia | - |
| tripotassium hexacyanoferrate | Acute - LC50<br>>100 mg/l [96 hours]<br>[OECD 203] | Fish - *Cyprinus carpio* | - |
| | Acute - EC50<br>59 mg/l [48 hours]<br>[OECD 202] | Daphnia - *Daphnia magna* | - |

# Section 12. Ecological information

| | | | |
|---|---|---|---|
| | Acute - EC50<br>3.1 mg/l [72 hours]<br>[OECD 201] | Algae - *Raphidocelis subcapitata* | - |
| | Acute - EC50<br>>1000 mg/l [1000 years]<br>[OECD 209] | Activated sludge | - |
| disodium hydrogenorthophosphate | Acute - LC50<br>>100 mg/l [96 hours]<br>[OECD 203] | Fish - *Oncorhynchus mykiss* | - |
| | Acute - EC50<br>>100 mg/l [48 hours]<br>[OECD 202] | Daphnia - *Daphnia magna* | - |
| | Acute - EC50<br>>100 mg/l [72 hours]<br>[OECD 201] | Algae - *Desmodesmus subspicatus* | - |
| | Acute - EC50<br>>1000 mg/l [3 hours]<br>[OECD 209] | Activated sludge | - |
| potassium dihydrogenorthophosphate | Acute - LC50<br>>100 mg/l [96 hours]<br>[OECD 203] | Fish - *Oncorhynchus mykiss* | - |
| | Acute - EC50<br>>100 mg/l [48 hours]<br>[OECD 202] | Daphnia - *Daphnia magna* | - |
| | Acute - EC50<br>>100 mg/l [72 hours]<br>[OECD 201] | Algae - *Desmodesmus subspicatus* | - |
| | Acute - EC50<br>>1000 mg/l [3 hours]<br>[OECD 209] | Activated sludge | - |
| sodium hydroxide | Acute - EC50<br>40.4 mg/l [48 hours] | Crustaceans - *Ceriodaphnia* | - |

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

## Persistence and degradability

**Conclusion/Summary** : There are no data available on the mixture itself.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate, (OC-6-11)- | - | - | Not readily |

## Bioaccumulative potential

Not available.

## Mobility in soil

**Soil/Water partition coefficient** : Not available.

**Mobility** : Not available.

# Section 12. Ecological information

**Other adverse effects** : No known significant effects or critical hazards.

# Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

# Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | ADR/RID | IMDG | IATA |
|---|---|---|---|---|---|---|
| **UN number** | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| **UN proper shipping name** | - | - | - | - | - | - |
| **Transport hazard class(es)** | - | - | - | - | - | - |
| **Label** | | | | | | |
| **Packing group** | - | - | - | - | - | - |
| **Environmental hazards** | No. | No. | No. | No. | Marine Pollutant: No | No. |

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not intended.

# Section 15. Regulatory information

**U.S. Federal regulations**

**TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**Clean Water Act (CWA) 307**: Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate,(OC-6-11)-; tripotassium hexacyanoferrate

**Clean Water Act (CWA) 311**: disodium hydrogenorthophosphate; sodium hydroxide

**TSCA 12(b) - Chemical export notification**

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

# Section 15. Regulatory information

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## SARA 302/304

### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

## SARA 311/312

**Classification** : Not applicable.

### Composition/information on ingredients

| Name | % | Classification |
|---|---|---|
| tripotassium hexacyanoferrate | ≤2.2 | EYE IRRITATION - Category 2A |
| sodium hydroxide | ≤0.1 | SKIN CORROSION - Category 1A<br>SERIOUS EYE DAMAGE - Category 1 |

## SARA 313

| | Product name | CAS number | % |
|---|---|---|---|
| **Form R - Reporting requirements** | Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate,(OC-6-11)- | 14459-95-1 | ≤2.8 |
| | tripotassium hexacyanoferrate | 13746-66-2 | ≤2.2 |
| **Supplier notification** | Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, trihydrate,(OC-6-11)- | 14459-95-1 | ≤2.8 |
| | tripotassium hexacyanoferrate | 13746-66-2 | ≤2.2 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

## State regulations

**Massachusetts** : The following components are listed: PHOSPHORIC ACID, DISODIUM SALT

**New York** : The following components are listed: Sodium phosphate, dibasic

**New Jersey** : The following components are listed: CYANIDE compounds; CYANIDE compounds; SODIUM PHOSPHATE, DIBASIC

**Pennsylvania** : The following components are listed: CYANIDE COMPOUNDS; CYANIDE COMPOUNDS; PHOSPHORIC ACID, DISODIUM SALT

## California Prop. 65

⚠ **WARNING**: This product can expose you to chemicals including hydrogen cyanide & cyanide salts and hydrogen cyanide & cyanide salts, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

| Ingredient name | No significant risk level | Maximum acceptable dosage level |
|---|---|---|
| hydrogen cyanide & cyanide salts | - | Yes. |
| hydrogen cyanide & cyanide salts | - | Yes. |

## EPA PFAS Compilation from Comptox

Not listed.

## TSCA 8(a)7 - One-time Reporting PFAS

Not listed.

## International regulations

# Section 15. Regulatory information

**Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

**Montreal Protocol**

Not listed.

**Stockholm Convention on Persistent Organic Pollutants**

Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

**OECD Comprehensive Global PFAS Database**

Not listed.

**Inventory list**

| | | |
|---|---|---|
| **Australia** | : | All components are listed or exempted. |
| **Canada** | : | All components are listed or exempted. |
| **China** | : | All components are listed or exempted. |
| **Eurasian Economic Union** | : | **Russian Federation inventory**: All components are listed or exempted. |
| **Japan** | : | **Japan inventory (CSCL):** All components are listed or exempted. |
| **New Zealand** | : | All components are listed or exempted. |
| **Philippines** | : | All components are listed or exempted. |
| **Republic of Korea** | : | All components are listed or exempted. |
| **Taiwan** | : | All components are listed or exempted. |
| **Thailand** | : | All components are listed or exempted. |
| **United States** | : | All components are active or exempted. |
| **Viet Nam** | : | All components are listed or exempted. |

# Section 16. Other information

**National Fire Protection Association (U.S.A.)**


**Procedure used to derive the classification**

| Classification | Justification |
|---|---|
| Not classified. | |

**History**

| | | |
|---|---|---|
| **Date of printing** | : | 08/13/2025 |
| **Date of issue/Date of revision** | : | 08/13/2025 |
| **Date of previous issue** | : | 09/25/2023 |
| **Version** | : | 2 |

# Section 16. Other information

**Key to abbreviations** : ADR = Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
DOT = Department of Transportation
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SGG = Segregation Group
TDG = Transportation of Dangerous Goods
UN = United Nations

**References** : Not available.

**Indicates information that has changed from previously issued version.**

**Notice to reader**

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