

# Material Safety Data Sheet

## Potassium ferricyanide

ACC# 19380

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Potassium ferricyanide**Catalog Numbers:** AC196780000, AC196781000, AC196785000, AC223110000, AC223111000, AC223115000, NC9550062, NC9550063, NC9652051, NC9662274, P232-500, S80138A**Synonyms:** Red prussiate; Potassium hexacyanoferrate (III); Potassium iron(III)cyanide.**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100**Emergency Number:** 201-796-7100**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
13746-66-2	Potassium ferricyanide	98+	237-323-3

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: orange to red powder and chunks.

**Caution!** Contact with acids liberates toxic gas. May cause eye, skin, and respiratory tract irritation.**Target Organs:** None known.

#### Potential Health Effects

**Eye:** May cause eye irritation.**Skin:** May cause skin irritation. May be harmful if absorbed through the skin.**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed. May cause effects similar to those of acute inhalation.**Inhalation:** May cause respiratory tract irritation. May cause anoxia, characterized by weakness, headache, dizziness, confusion, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), weak and irregular heart beat, collapse, unconsciousness, convulsions, coma and death. May be harmful if inhaled.**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Long term inhalation in rats caused changes in urine composition and red blood cell

## Section 4 - First Aid Measures

**Eyes:** Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

**Skin:** Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion:** Do not induce vomiting. Get medical aid if irritation or symptoms occur.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Use water spray to keep fire-exposed containers cool. Substance is noncombustible.

**Extinguishing Media:** In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam. Do NOT use carbon dioxide.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 0; Instability: 1

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Do not let this chemical enter the environment.

## Section 7 - Handling and Storage

**Handling:** Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use only with adequate ventilation.

**Storage:** Store in a cool, dry place. Store in a tightly closed container. Store protected from light.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

**Exposure Limits**

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Potassium ferricyanide	1 mg/m <sup>3</sup> TWA (as Fe) (listed under Iron salts (soluble)).	1 mg/m <sup>3</sup> TWA (as Fe) (listed under Iron salts (soluble)).	5 mg/m <sup>3</sup> TWA (listed under Cyanide anion).

**OSHA Vacated PELs:** Potassium ferricyanide: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## Section 9 - Physical and Chemical Properties

**Physical State:** Powder and chunks

**Appearance:** orange to red

**Odor:** odorless

**pH:** ~6 (5% aq. sol.)

**Vapor Pressure:** Negligible

**Vapor Density:** Not available.

**Evaporation Rate:** Not available.

**Viscosity:** Not available.

**Boiling Point:** Not available.

**Freezing/Melting Point:** Decomposes

**Decomposition Temperature:** > 200 deg C

**Solubility:** 464 g/L (20°C)

**Specific Gravity/Density:** 1.850

**Molecular Formula:** C<sub>6</sub>FeK<sub>3</sub>N<sub>6</sub>

**Molecular Weight:** 329.26

## Section 10 - Stability and Reactivity

**Chemical Stability:** Moisture sensitive. Light sensitive.

**Conditions to Avoid:** Incompatible materials, light, dust generation, moisture, excess heat.

**Incompatibilities with Other Materials:** Oxidizing agents, acids, ammonia, fluorine, sodium nitrate, nitrides (e.g. potassium nitride, sodium nitride), chromium trioxide.

**Hazardous Decomposition Products:** Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide.

**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:****CAS#** 13746-66-2: LJ8225000**LD50/LC50:**

CAS# 13746-66-2:

Oral, mouse: LD50 = 2970 mg/kg;

**Carcinogenicity:**

CAS# 13746-66-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** No data available.**Teratogenicity:** No data available.**Reproductive Effects:** No data available.**Mutagenicity:** See actual entry in RTECS for complete information.**Neurotoxicity:** No information reported**Other Studies:**

Section 12 - Ecological Information
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**Ecotoxicity:** Fish: Fathead Minnow: LC50: 100 mg/l; 96H; Fish: Water Flea: LC50: 80 mg/l; 96H; Acute and long-term toxicity to fish and invertebrates: LC50/96hr for fathead minnow: GT 100mg/L; LC50/96hr for water flea: 80mg/L. Toxicity to aquatic and terrestrial plants: No plan germination adverse effects at 10mg/L for ryegrass, radish and lettuce.

**Environmental:** Bioaccumulation/Bioconcentration: Not likely to bioconcentrate.**Physical:** No information available.**Other:** Do not empty into drains.

Section 13 - Disposal Considerations
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Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.**RCRA U-Series:** None listed.

Section 14 - Transport Information
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	US DOT	Canada TDG
<b>Shipping Name:</b>	Not Regulated.	Not Regulated.
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 13746-66-2 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

#### CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

#### Section 313

No chemicals are reportable under Section 313.

#### Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

#### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA. CAS# 13746-66-2 is listed as a Priority Pollutant under the Clean Water Act. CAS# 13746-66-2 is listed as a Toxic Pollutant under the Clean Water Act.

#### OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

#### STATE

CAS# 13746-66-2 can be found on the following state right to know lists: California, (listed as Iron salts (soluble)), California, (listed as Cyanides, inorganic salts), New Jersey, (listed as Cyanide anion), New Jersey, (listed as Cyanides, inorganic salts), Pennsylvania, (listed as Iron salts (soluble)), Pennsylvania, (listed as Cyanide anion), Minnesota, (listed as Iron salts (soluble)), Massachusetts, (listed as Cyanide anion).

#### California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

### European/International Regulations

#### European Labeling in Accordance with EC Directives

#### Hazard Symbols:

Not available.

#### Risk Phrases:

R 32 Contact with acids liberates very toxic gas.

#### Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 50A Do not mix with acids.

#### WGK (Water Danger/Protection)

CAS# 13746-66-2: 2

**Canada - DSL/NDSL**

CAS# 13746-66-2 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 13746-66-2 (listed as Iron salts (soluble)) is listed on the Canadian Ingredient Disclosure List.

<h2>Section 16 - Additional Information</h2>
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**MSDS Creation Date:** 4/26/1999

**Revision #9 Date:** 2/15/2008

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.*