
POTASSIUM FERRICYANIDE

MSDS Number: P5752 --- Effective Date: 11/17/99

1. Product Identification

Synonyms: Potassium ferricyanate; tripotassium hexacyanoferrate; Ferrate (3-), hexacyano, tripotassium

CAS No.: 13746-66-2

Molecular Weight: 329.25

Chemical Formula: K₃Fe(CN)₆

Product Codes: 3104

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Potassium Ferricyanide	13746-66-2	99 - 100%	Yes

3. Hazards Identification

Emergency Overview

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

J.T. Baker SAF-T-DATA^(tm) Ratings (Provided here for your convenience)

Health Rating: 1 - Slight

Flammability Rating: 0 - None

Reactivity Rating: 1 - Slight

Contact Rating: 1 - Slight

Lab Protective Equip: GOGGLES; LAB COAT

Storage Color Code: Orange (General Storage)

Potential Health Effects

Information on the human health effects from exposure to this substance is limited. Used information for a related compound, potassium ferrocyanide, as a guide. Potassium ferrocyanide is apparently benign and does not decompose to cyanide in the body.

Inhalation:

May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.

Ingestion:

Large doses may cause gastrointestinal upset with nausea, vomiting, diarrhea, and possible cramping.

Skin Contact:

May cause irritation with redness and pain.

Eye Contact:

May cause irritation, redness and pain.

Chronic Exposure:

No information found.

Aggravation of Pre-existing Conditions:

No information found.

4. First Aid Measures

Inhalation:

Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:

Give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation persists.

5. Fire Fighting Measures

Fire:

Not considered to be a fire hazard.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Use any means suitable for extinguishing surrounding fire.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. May emit toxic and flammable fumes of cyanide if involved in a fire.

6. Accidental Release Measures

Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Protect from light. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

For conditions of use where exposure to the dust or mist is apparent, a half-face dust/mist respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Safety glasses. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance:

Bright red, crystalline powder.

Odor:

Odorless.

Solubility:

Slowly soluble in 2.5 parts cold water

Specific Gravity:

1.85 @ 17C/4C

pH:

No information found.

% Volatiles by volume @ 21C (70F):

0

Boiling Point:

No information found.

Melting Point:

No information found.

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity**Stability:**

Stable under ordinary conditions of use and storage. The aqueous solution decomposes slowly on standing.

Hazardous Decomposition Products:

When heated to decomposition or comes in contact with acid or acid fumes it emits toxic fumes of cyanides. Emits toxic fumes of cyanide and oxides of nitrogen when heated to decomposition.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Ammonia, chromium trioxide + heat, cupric nitrate, sodium nitrite + heat, acids and acid fumes.

Conditions to Avoid:

Light, heat, incompatibles.

11. Toxicological Information

Oral mouse LD50: 2970 mg/kg. Investigated as a mutagen.

Ingredient	---NTP Carcinogen---		IARC Category
	Known	Anticipated	
Potassium Ferricyanide (13746-66-2)	No	No	None

12. Ecological Information**Environmental Fate:**

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

Ingredient	TSCA	EC	Japan	Australia
Potassium Ferricyanide (13746-66-2)	Yes	Yes	Yes	Yes

Ingredient	--Canada--			
	Korea	DSL	NDSL	Phil.
Potassium Ferricyanide (13746-66-2)	Yes	Yes	No	Yes

-----\Federal, State & International Regulations - Part 1\-----

Ingredient	-SARA 302-		-----SARA 313-----	
	RQ	TPQ	List	Chemical Catg.
Potassium Ferricyanide (13746-66-2)	No	No	No	No

Ingredient	-----\Federal, State & International Regulations - Part 2\-----		
	CERCLA	-RCRA-	-TSCA-
Potassium Ferricyanide (13746-66-2)	No	261.33	8(d)

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: No information found.

Poison Schedule: No information found.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0

Label Hazard Warning:

CAUTION! MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY CAUSE IRRITATION TO SKIN, EYES, AND RESPIRATORY TRACT.

Label Precautions:

- Avoid contact with eyes, skin and clothing.
- Wash thoroughly after handling.
- Avoid breathing dust.
- Keep container closed.
- Use with adequate ventilation.

Label First Aid:

If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops or persists. If swallowed, give large amounts of water to drink. Never give anything by mouth to an unconscious person. Get medical attention.

Product Use:

Laboratory Reagent.

Revision Information:

No changes.

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