

# ACROS ORGANICS

## Material Safety Data Sheet

Creation Date 10-Feb-2011

Revision Date 27-Mar-2012

Revision Number 1

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	<b>Potassium ferrocyanide trihydrate</b>	
<b>Cat No.</b>	<b>AC424130000; AC424130025; AC424130050; AC424135000</b>	
<b>Synonyms</b>	Potassium hexacyanoferrate(II)	
<b>Recommended Use</b>	Laboratory chemicals	
<b>Company</b> Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	<b>Entity / Business Name</b> Acros Organics One Reagent Lane Fair Lawn, NJ 07410	<b>Emergency Telephone Number</b> For information in the US, call: 001-800- ACROS-01 For information in Europe, call: +32 14 57 52 11  Emergency Number, Europe: +32 14 57 52 99 Emergency Number, US: 001-201-796-7100  CHEMTREC Phone Number, US: 001-800- 424-9300 CHEMTREC Phone Number, Europe: 001- 703-527-3887

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

May be harmful by inhalation, in contact with skin and if swallowed. May cause skin, eye, and respiratory tract irritation. The toxicological properties have not been fully investigated. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Appearance** Yellow

**Physical State** Powder Solid

**odor** odorless

**Target Organs** No information available.

#### Potential Health Effects

**Acute Effects**

**Principle Routes of Exposure**

**Eyes** May cause irritation  
**Skin** May be harmful in contact with skin. May cause irritation.  
**Inhalation** May be harmful if inhaled. May cause irritation.  
**Ingestion** May be harmful if swallowed. May cause irritation.

**Chronic Effects** None known

See Section 11 for additional Toxicological information.

**Aggravated Medical Conditions** No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Haz/Non-haz**

Component	CAS-No	Weight %
Potassium ferrocyanide	14459-95-1	>95
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	13943-58-3	-

### 4. FIRST AID MEASURES

**Eye Contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**Skin Contact** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation** Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

**Ingestion** Do not induce vomiting. Obtain medical attention.

**Notes to Physician** Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Flash Point** No information available.  
**Method** No information available.

**Autoignition Temperature** No information available.

**Explosion Limits**

**Upper** No data available  
**Lower** No data available

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Hazardous Combustion Products** No information available.

**Sensitivity to mechanical impact** No information available.  
**Sensitivity to static discharge** No information available.

**Specific Hazards Arising from the Chemical**

Non-combustible.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**                      **Health 1**                      **Flammability 1**                      **Instability 1**                      **Physical hazards N/A**

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions**                      Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

**Environmental Precautions**                      Should not be released into the environment

**Methods for Containment and Clean Up**                      Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

**7. HANDLING AND STORAGE**

**Handling**                      Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Avoid dust formation. Do not breathe dust. Protect from light.

**Storage**                      Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep away from direct sunlight.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium ferrocyanide	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 5 mg/m <sup>3</sup> (Vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 25 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 5 mg/m <sup>3</sup> (Vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 25 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWA EV
Potassium ferrocyanide	TWA: 1.0 mg/m <sup>3</sup> Ceiling: 10 ppm Ceiling: 11 mg/m <sup>3</sup> Skin	TWA: 5 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	TWA: 1.0 mg/m <sup>3</sup> Ceiling: 10 ppm Ceiling: 11 mg/m <sup>3</sup> Skin	TWA: 5 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> STEL: 2 mg/m <sup>3</sup>	

**NIOSH IDLH:** Immediately Dangerous to Life or Health

### Personal Protective Equipment

#### Eye/face Protection

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 and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

#### Respiratory Protection

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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Powder Solid
Appearance	Yellow
odor	odorless
Odor Threshold	No information available.
pH	9.5 @ 25°C 100g/l aq.sol.
Vapor Pressure	negligible
Vapor Density	No information available.
Viscosity	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	70°C / 158°F
Decomposition temperature	> 70°C
Flash Point	No information available.
Evaporation Rate	No information available.
Specific Gravity	1.850
Solubility	No information available.
log Pow	No data available
Molecular Weight	422.4
Molecular Formula	C <sub>6</sub> Fe K <sub>4</sub> N <sub>6</sub> . 3 H <sub>2</sub> O

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions. Light sensitive.
<b>Conditions to Avoid</b>	Burning produces obnoxious and toxic fumes. Exposure to light. Incompatible products.
<b>Incompatible Materials</b>	Acids, Strong oxidizing agents, Strong acids
<b>Hazardous Decomposition Products</b>	Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), Hydrogen cyanide (hydrocyanic acid)
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions .</b>	Contact with acids liberates very toxic gas..

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

**Product Information** No acute toxicity information is available for this product

### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	3613 mg/kg ( Rat )	Not listed	Not listed

**Irritation** No information available.

**Toxicologically Synergistic Products** No information available.

### Chronic Toxicity

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**Other Adverse Effects** The toxicological properties have not been fully investigated..

**Endocrine Disruptor Information** No information available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	Not listed	100 mg/L LC50 96 h 19 mg/L LC50 96 h	Not listed	32 mg/L EC50 = 96 h

**Persistence and Degradability** Not readily biodegradable.

**Bioaccumulation/ Accumulation** No information available

**Mobility** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

## 14. TRANSPORT INFORMATION

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Potassium ferrocyanide	-	-	-	-	-		X	X	X	X	-
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	X	X	-	237-722-2	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

**U.S. Federal Regulations**

TSCA 12(b) Not applicable

**SARA 313**

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Potassium ferrocyanide	14459-95-1	>95	1.0
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	13943-58-3	-	1.0

**SARA 311/312 Hazardous Categorization**

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

**Clean Water Act**

Not applicable

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Potassium ferrocyanide	-	-	X	-
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	-	-	X	-

**Clean Air Act**

Not applicable

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Potassium ferrocyanide	X		-
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	X		-

**OSHA**

Not applicable

**CERCLA**

Not Applicable

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**State Right-to-Know**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Potassium ferrocyanide	-	-	X	X	X
Ferrate(4-), hexakis(cyano-C)-, tetrapotassium, (OC-6-11)-	-	-	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security**

This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

**Canada**

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

**WHMIS Hazard Class**

Non-controlled

**16. OTHER INFORMATION**

**Prepared By** Regulatory Affairs  
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**Revision Summary** "\*\*\*\*", and red text indicates revision



**Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**