



Material Safety Data Sheet

Creation Date 24-Sep-2009

Revision Date 24-Sep-2009

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Sodium Nitroferricyanide Dihydrate (Crystalline/Certified ACS)
Cat No. S350-100
Synonyms Sodium nitroprusside dihydrate
Recommended Use Laboratory chemicals

Company Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number
CHEMTREC®, Inside the USA: 800-424-9300
CHEMTREC®, Outside the USA: 703-527-3887

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Toxic by inhalation, in contact with skin and if swallowed. May cause pulmonary edema. May cause central nervous system effects. May cause eye, skin, and respiratory tract irritation. Contact with acids liberates very toxic gas. Hygroscopic.

Appearance Dark red

Physical State Crystalline Solid

Odor odorless

Target Organs Respiratory system, Blood, Central nervous system (CNS), Heart

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes

May cause irritation

Skin

Toxic in contact with skin. May cause irritation.

Inhalation

Toxic by inhalation. Inhalation may cause central nervous system effects. May cause pulmonary edema. May cause irritation of respiratory tract.

Ingestion

Toxic if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects

Exposure to small amounts of cyanide compounds over long periods of time is reported to cause loss of appetite, headache, weakness, nausea, dizziness, and irritation of the upper respiratory tract and eyes.

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 %
Sodium nitroferricyanide dihydrate	13755-38-9	99-100
Sodium nitroferricyanide	14402-89-2	-

4. FIRST AID MEASURES

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

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

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

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

Thermal decomposition can lead to release of irritating gases and vapors.

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 3 Flammability 1 Instability 1 Physical hazards N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. 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	Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Do not breathe vapors/dust. Do not ingest. Keep away from acids.
Storage	Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near acids. Protect from moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Measures	Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location.
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Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium nitroferricyanide dihydrate			IDLH: 25 mg/m ³
Sodium nitroferricyanide			IDLH: 25 mg/m ³

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Sodium nitroferricyanide dihydrate	Ceiling: 10 ppm Ceiling: 11 mg/m ³ Skin	TWA: 5 mg/m ³	
Sodium nitroferricyanide	Ceiling: 10 ppm Ceiling: 11 mg/m ³ Skin	TWA: 5 mg/m ³	

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	Crystalline Solid
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9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark red
Odor	odorless
Odor Threshold	No information available.
pH	5 5% aq. solution
Vapor Pressure	No information available.
Vapor Density	No information available.
Viscosity	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	No information available.
Decomposition temperature °C	No information available.
Flash Point	No information available.
Evaporation Rate	No information available.
Specific Gravity	1.720
Solubility	Soluble in water
log Pow	No data available
Molecular Weight	297.94
Molecular Formula	C5 Fe N6 Na2 O . 2 H2 O

10. STABILITY AND REACTIVITY

Stability	Hygroscopic.
Conditions to Avoid	Avoid dust formation. Incompatible products. Exposure to moist air or water. Excess heat.
Incompatible Materials	Strong oxidizing agents, Acids
Hazardous Decomposition Products	Hydrogen cyanide (hydrocyanic acid), Nitrogen oxides (NOx), Sodium oxides, Carbon monoxide (CO), Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization does not occur
Hazardous Reactions .	Contact with acids liberates very toxic gas..

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium nitroferricyanide	99 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

Do not empty into drains

Persistence and Degradability	No information available
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.
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14. TRANSPORT INFORMATION

DOT

UN-No	UN1588
Proper Shipping Name	CYANIDES, INORGANIC, SOLID, N.O.S.
Proper technical name	(SODIUM NITROFERRICYANIDE)
Hazard Class	6.1
Packing Group	II

TDG

UN-No	UN1588
Proper Shipping Name	CYANIDES, INORGANIC, SOLID, N.O.S.

14. TRANSPORT INFORMATION

Hazard Class 6.1
Packing Group II

IATA

UN-No UN1588
Proper Shipping Name CYANIDES, INORGANIC, SOLID, N.O.S.
Hazard Class 6.1
Packing Group II

IMDG/IMO

UN-No UN1588
Proper Shipping Name CYANIDES, INORGANIC, SOLID, N.O.S.
Hazard Class 6.1
Packing Group II

15. REGULATORY INFORMATION

All of the components in the product are on the following Inventory lists:

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Sodium nitroferricyanide dihydrate	-	-	-	-	-		X	-	X	X	-
Sodium nitroferricyanide	X	X	-	238-373-9	-		X	-	X	X	KE-12367 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 %
Sodium nitroferricyanide dihydrate	13755-38-9	99-100	1.0
Sodium nitroferricyanide	14402-89-2	-	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	No

Clean Water Act

Not applicable

Clean Air Act

Not applicable

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
Sodium nitroferricyanide dihydrate	-	X	X	-	-
Sodium nitroferricyanide	-	X	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ):	N
DOT Marine Pollutant	Y
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

D1B Toxic materials



16. OTHER INFORMATION

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Tel: (412) 490-8929

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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