



MATERIAL SAFETY DATA SHEET
Sodium Nitroprusside Dihydrate

Section 1 - Chemical Product and Company Identification

MSDS Name: Sodium Nitroprusside Dihydrate

Catalog Numbers: S/5680/48, S/5680/53, S/5720/48, S/5720NC/48

Synonyms: Nipride dihydrate; Disodium nitroprusside dihydrate; Sodium nitroferricyanide dihydrate; Sodium nitrosylpentacyanoferrate(III) dihydrate; Sodium nitroprusside dihydrate; Disodium pentacyanonitrosylferrate dihydrate; SNP.

Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG

For information in Europe, call: (01509) 231166

Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
13755-38-9	Sodium nitroferricyanide dihydrate	>99.8	unlisted		

Text for R-phrases: see Section 16

Hazard Symbols: T



Risk Phrases: 23/24/25

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Toxic by inhalation, in contact with skin and if swallowed. Hygroscopic (absorbs moisture from the air).

Potential Health Effects

Eye: May cause eye irritation.

Skin: May cause skin irritation. May be metabolized to cyanide which in turn acts by inhibiting cytochrome oxidase impairing cellular respiration.

Ingestion: Metabolism may release cyanide, which may result in headache, dizziness, weakness, collapse, unconsciousness and possible death. Ingestion may result in symptoms similar to cyanide poisoning which is characterized by asphyxiation. Large doses of cyanide may result in sudden loss of consciousness and prompt death; small doses will prolong the above symptoms 1 to 2 hours.

Inhalation: May cause respiratory tract irritation. May be metabolized to cyanide which in turns act by inhibiting cytochrome oxidase impairing cellular respiration.

Chronic: May be metabolized to cyanide which in turn acts by inhibiting cytochrome oxidase impairing cellular respiration. Chronic exposure to cyanide solutions may lead to the development of a "cyanide" rash, characterized by itching, and by macular, papular, and vesicular eruptions, and may be accompanied by secondary infections. Exposure to small amounts of cyanide

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

Section 4 - First Aid Measures

- Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.
- Skin:** In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid. Wash clothing before reuse.
- Ingestion:** If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
- Notes to Physician:**
- Antidote:** Always have a cyanide antidote kit on hand when working with cyanide compounds. Get medical advice to use.

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. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Combustion by-products include oxides of nitrogen and hydrogen cyanide.
- Extinguishing Media:** Use extinguishing media most appropriate for the surrounding fire.

Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Do not breathe dust. Use only with adequate ventilation.
- Storage:** Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Store protected from moisture.

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 general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 13755-38-9:

Belgium - TWA: (iron salts (soluble)): 1 mg/m³ VLE (as Fe)

Malaysia: (iron salts (soluble)): 1 mg/m³ TWA (as Fe)

Netherlands: (iron salts (soluble)): 0.1 mg/m³ MAC (as Fe)

Spain: (iron salts (soluble)): 1 mg/m³ VLA-ED (as Fe)

CAS# 14402-89-2:

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:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

- Physical State:** Crystals
- Color:** bright red
- Odor:** practically odorless
- pH:** Not available
- Vapor Pressure:** Not available
- Viscosity:** Not available
- Boiling Point:** Not available
- Freezing/Melting Point:** Not available
- Autoignition Temperature:** Not applicable
- Flash Point:** Not applicable.
- Explosion Limits: Lower:** Not available
- Explosion Limits: Upper:** Not available
- Decomposition Temperature:** Not available
- Solubility in water:** Soluble
- Specific Gravity/Density:** 1.72 g/cm³
- Molecular Formula:** C₅FeN₆O.Na₂.2H₂O
- Molecular Weight:** 215.8866

Section 10 - Stability and Reactivity

- Chemical Stability:** Stable under normal temperatures and pressures.
- Conditions to Avoid:** Dust generation, excess heat, exposure to moist air or water.
- Incompatibilities with Other Materials:** Strong oxidizing agents, strong acids.
- Hazardous Decomposition Products:** Hydrogen cyanide, nitrogen oxides, irritating and toxic fumes and gases, sodium oxide.
- Hazardous Polymerization:** Has not been reported.

Section 11 - Toxicological Information

- RTECS#:** CAS# 13755-38-9: LJ8925000
CAS# 14402-89-2: LJ8750000
- LD50/LC50:** RTECS: Not available. RTECS:
CAS# 14402-89-2: Oral, mouse: LD50 = 61 mg/kg;
Oral, rabbit: LD50 = 34 mg/kg;
Oral, rat: LD50 = 99 mg/kg;
- Carcinogenicity:** Sodium nitroferricyanide dihydrate - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Sodium nitroferricyanide, anhydrous - Not listed as a carcinogen by ACGIH, IARC, NTP,

or CA Prop 65.

Other: The hazards associated with cyanide may be seen in this product.

Section 12 - Ecological Information

Not available

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	Cyanides, Inorganic, Solid, N.O.S.	Cyanides, Inorganic, Solid, N.O.S. Cyanides, Inorganic, Solid, N.O.S.	Cyanides, Inorganic, Solid, N.O.S.
Hazard Class:	6.1	6.1	6.1
UN Number:	1588	1588	1588
Packing Group:	III	III	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T

Risk Phrases:

R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.

Safety Phrases:

S 28A After contact with skin, wash immediately with plenty of water.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 38 In case of insufficient ventilation, wear suitable respiratory equipment.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 13755-38-9: 2

CAS# 14402-89-2: Not available

Canada

CAS# 14402-89-2 is listed on Canada's DSL List

US Federal

TSCA

CAS# 13755-38-9 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the Inventory (40CFR720.3(u)(2)).

CAS# 14402-89-2 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

MSDS Creation Date: 12/16/1997

Revision #8 Date 3/16/2007

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 the company 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 the company has been advised of the possibility of such damages.
