# Sodium Nitroprusside, Dihydrate

## sc-203395

**Material Safety Data Sheet**

| Hazard Alert Code Key: | EXTREME | HIGH | MODERATE | LOW |
|---|---|---|---|---|

## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME
Sodium Nitroprusside, Dihydrate

### STATEMENT OF HAZARDOUS NATURE
**CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.**

### NFPA


### SUPPLIER
Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

**EMERGENCY**
ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

### SYNONYMS
Na2[Fe(CN)5]NO 2H2O, Na2Fe(CN)5NO.2H2O, C5-Fe-N6-Na2-O, "sodium nitrosylpentacyanoferrate (III)", "sodium nitroferricyanide dihydrate", "sodium nitroprussiate dihydrate", "Nipride dihydrate", Nipruss, Nitropress, "pentacyanonitrosyl-, disodium dihydrate", "sodium nitroprusside dihydrate", "ferrate(2-), pentacyanonitrosyl-, disodium, dihydrate", "disodium nitroprusside dihydrate", "sodium nitrosylpentacyanoferrate (III) dihydrate", "sodium nitrosopentacyanoferrate (III)"

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS

| | | Min | Max |
|---|---|---|---|
| Flammability | 0 | | |
| Toxicity | 3 | | |
| Body Contact | 2 | | |
| Reactivity | 0 | | |
| Chronic | 2 | | |

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4

### CANADIAN WHMIS SYMBOLS

## EMERGENCY OVERVIEW

### RISK

Toxic if swallowed.
Contact with acids liberates very toxic gas.
Toxic to aquatic organisms.
May cause long-term adverse effects in the environment.

## POTENTIAL HEALTH EFFECTS

## ACUTE HEALTH EFFECTS

### SWALLOWED

■ Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.
■ A number of materials such as cyanamide, calcium cyanamide, cyanates, isocyanates, isonitrile, thiocyanates, ferricyanide and ferrocyanide, and cyanoacetates do not exhibit the same toxic effects as cyanides and nitriles.
■ The toxicity of complex cyanides depends on its stability in solution, ability to release cyanide ions on dissociation and alteration in pH of solutions.
They are compounds in which the cyanide anion is incorporated into a complex or complexes and they are different in chemical and toxicologic properties from simple cyanides.
■ Cyanide poisoning can cause increased saliva output, nausea without vomiting, anxiety, confusion, vertigo, dizziness, stiffness of the lower jaw, convulsions, spasm, paralysis, coma and irregular heartbeat, and stimulation of breathing followed by failure.
Often the skin becomes cyanosed (blue-grey), and this is often delayed.

### EYE

■ Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Slight abrasive damage may also result.

### SKIN

■ Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.
■ There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.
■ Skin contact with cyanides may cause an itchy rash with blisters and scabs which may become infected.
■ Open cuts, abraded or irritated skin should not be exposed to this material.
■ Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.
Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

### INHALED

■ The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models).
Nevertheless inhalation of dusts, or fumes, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress.
■ Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual.
■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.
If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.

### CHRONIC HEALTH EFFECTS

■ Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.
Chronic exposure to cyanides and certain nitriles may result in interference to iodine uptake by thyroid gland and its consequent enlargement. This occurs following metabolic conversion of the cyanide moiety to thiocyanate. Thyroid insufficiency may also occur as a result of metabolic conversion of cyanides to the corresponding thiocyanate. Exposure to small amounts of cyanide compounds over long periods are reported to cause loss of appetite, headache, weakness, nausea, dizziness, abdominal pain, changes in taste and smell, muscle cramps, weight loss, flushing of the face, persistent runny nose and irritation of the upper respiratory tract and eyes. These symptoms are not specific to cyanide exposure and therefore the existence of a chronic cyanide toxicity remains speculative. Repeated minor contact with cyanides produce a characteristic rash with itching, papules (small, superficial raised spots on the skin) and possible sensitization. Concerns have been expressed that low-level, long term exposures may result in damage to the nerves of the eye.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME | CAS RN | % |
|---|---|---|
| Sodium Nitroprusside, Dihydrate | 13755-38-9 | >98 |

## Section 4 - FIRST AID MEASURES

### SWALLOWED

- IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.
- For advice, contact a Poisons Information Centre or a doctor.
- Urgent hospital treatment is likely to be needed.
- In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

### EYE

If this product comes in contact with the eyes

- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

### SKIN

If skin contact occurs

- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

### INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

### NOTES TO PHYSICIAN

■ For cyanide intoxication (and for certain nitriles which produce cyanide ion)

- Signs symptoms of acute cyanide poisoning reflect cellular hypoxia and are often non-specific.
- Cyanosis may be a late finding.
- A bradycardic, hypertensive and tachypneic patient suggests poisoning especially if CNS and cardiovascular depression subsequently occurs.
- Immediate attention should be directed towards assisted ventilation, administration of 100% oxygen, insertion of intravenous lines and institution of cardiac monitoring.

May produce metabolic cyanide.

## Section 5 - FIRE FIGHTING MEASURES

| | |
|---|---|
| Vapor Pressure (mmHG) | Negligible |
| Upper Explosive Limit (%) | Not applicable |
| Specific Gravity (water=1) | 1.72 |
| Lower Explosive Limit (%) | Not applicable |

**EXTINGUISHING MEDIA**

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

**FIRE FIGHTING**

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

When any large container (including road and rail tankers) is involved in a fire,
consider evacuation by 800 metres in all directions.

**GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS**

- Non combustible.
- Not considered a significant fire risk, however containers may burn.

Decomposition may produce toxic fumes of nitrogen oxides (NOx), metal oxides.
May emit poisonous fumes.

**FIRE INCOMPATIBILITY**

None known.

## Section 6 - ACCIDENTAL RELEASE MEASURES

**MINOR SPILLS**

Environmental hazard - contain spillage.

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.

**MAJOR SPILLS**

Environmental hazard - contain spillage.

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

### RECOMMENDED STORAGE METHODS

- Glass container is suitable for laboratory quantities
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure.

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### STORAGE REQUIREMENTS

- Plastic bag
- NOTE Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.
- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

| Source | Material | TWA ppm | TWA mg/m³ | STEL ppm | STEL mg/m³ | Peak ppm | Peak mg/m³ | TWA F/CC | Notes |
|---|---|---|---|---|---|---|---|---|---|
| US - California Permissible Exposure Limits for Chemical Contaminants | sodium nitroprusside (Cyanide, as CN) | | 5 | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| US - Minnesota Permissible Exposure Limits (PELs) | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| Canada - British Columbia Occupational Exposure Limits | sodium nitroprusside (Cyanide salts, as CN) | | | | | C 5 | Skin |
| US - Idaho - Limits for Air Contaminants | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| US - Alaska Limits for Air Contaminants | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| US - Hawaii Air Contaminant Limits | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | (CAS (Varies with compound)) |
| US - Washington Permissible exposure limits of air contaminants | sodium nitroprusside (Cyanide (as CN)) | | 5 | 10 | | | |
| US - Oregon Permissible Exposure Limits (Z-1) | sodium nitroprusside (Cyanides (as CN)) | - | 5 | | | | |
| US OSHA Permissible Exposure Levels (PELs) - Table Z1 | sodium nitroprusside (Cyanides (as CN)) | | 5 | | | | |
| Canada - Quebec Permissible Exposure Values | sodium nitroprusside (Cyanides (as | | | | 10 | 11 | |

| | | | | |
|---|---|---|---|---|
| for Airborne Contaminants (English) | CN)) | | | |
| US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants | sodium nitroprusside (Cyanides (as CN)) | 5 | | |
| Canada - Alberta Occupational Exposure Limits | sodium nitroprusside (Iron salts, soluble, as Fe) | 1 | | |
| Canada - British Columbia Occupational Exposure Limits | sodium nitroprusside (Iron salts - soluble, as Fe) | 1 | 2 | |
| US NIOSH Recommended Exposure Limits (RELs) | sodium nitroprusside (Iron salts (soluble, as Fe)) | 1 | | |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants (English) | sodium nitroprusside (Iron salts, soluble (as Fe)) | 1.0 | | |
| US ACGIH Threshold Limit Values (TLV) | sodium nitroprusside (Iron salts, soluble, as Fe) | 1 | | TLV® Basis URT & skin irr |
| US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants | sodium nitroprusside (Iron salts (soluble) (as Fe)) | 1 | | |
| US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants | sodium nitroprusside (Iron salts (soluble) (as Fe)) | 1 | | |
| US - Minnesota Permissible Exposure Limits (PELs) | sodium nitroprusside (Iron salts (soluble)(as Fe)) | 1 | | |
| US - California Permissible Exposure Limits for Chemical Contaminants | sodium nitroprusside (Iron salts, soluble, as Fe) | 1 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| US - Hawaii Air Contaminant Limits | sodium nitroprusside (Iron salts (soluble) (as Fe)) | | 1 | | 2 | | (CAS (Varies with compound)) |
| US - Alaska Limits for Air Contaminants | sodium nitroprusside (Iron salts (soluble) (as Fe)) | | 1 | | | | |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | sodium nitroprusside (Iron salts, soluble, (as Fe)) | | 1 | | 3 | | |
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances | sodium nitroprusside (Iron salts, soluble (as Fe)) | - | 1 | - | 2 | | |
| US - Washington Permissible exposure limits of air contaminants | sodium nitroprusside (Iron salts, soluble (as Fe)) | | 1 | | 3 | | |
| Canada - Nova Scotia Occupational Exposure Limits | sodium nitroprusside (Iron salts - soluble (as Fe)) | | 1 | | | | TLV Basis upper respiratory tract & skin irritation |
| Canada - Prince Edward Island Occupational Exposure Limits | sodium nitroprusside (Iron salts, soluble, as Fe) | | 1 | | | | TLV® Basis URT & skin irr |
| Canada - Northwest Territories Occupational Exposure Limits (English) | sodium nitroprusside (Iron salts, soluble (as Fe)) | | 1 | | 2 | | |
| US - Michigan Exposure Limits for Air Contaminants | sodium nitroprusside (Iron salts (soluble) (as Fe)) | | 1 | | | | |
| US - Oregon Permissible Exposure Limits (Z-1) | sodium nitroprusside (Iron salts, soluble, as Fe) | - | 1 | | | | Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. |

| | | | | |
|---|---|---|---|---|
| Canada - Ontario Occupational Exposure Limits | sodium nitroprusside (Particles (Insoluble or Poorly Soluble) Not Otherwise) | | 10 (I) | |
| Canada - British Columbia Occupational Exposure Limits | sodium nitroprusside (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC)) | | 10 (N) | |
| Canada - Ontario Occupational Exposure Limits | sodium nitroprusside (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs) | | 3 (R) | |
| US - California Permissible Exposure Limits for Chemical Contaminants | sodium nitroprusside (Particulates not otherwise regulated Respirable fraction) | | 5 | (n) |
| US - Oregon Permissible Exposure Limits (Z-1) | sodium nitroprusside (Particulates not otherwise regulated (PNOR) (f) Total Dust) | - | 10 | Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means “particles not otherwise regulated.” |
| US - Michigan Exposure Limits for Air Contaminants | sodium nitroprusside (Particulates not otherwise regulated, Respirable dust) | | 5 | |
| US - Oregon Permissible Exposure Limits (Z-1) | sodium nitroprusside (Particulates not otherwise regulated (PNOR) (f) Respirable Fraction) | - | 5 | Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means “particles not |

otherwise regulated."

### PERSONAL PROTECTION

### EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

### HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

### OTHER

- Overalls.
- Eyewash unit.
- Barrier cream.
- Skin cleansing cream.

### ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.
The basic types of engineering controls are
Process controls which involve changing the way a job activity or process is done to reduce the risk.
Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### PHYSICAL PROPERTIES

Mixes with water.
Contact with acids liberates very toxic gas.

| | | | |
|---|---|---|---|
| State | DIVIDED SOLID | Molecular Weight | 298.0 |
| Melting Range (°F) | Not available. | Viscosity | Not Applicable |
| Boiling Range (°F) | Not available. | Solubility in water (g/L) | Miscible |
| Flash Point (°F) | Not applicable | pH (1% solution) | Not available. |
| Decomposition Temp (°F) | Not Available | pH (as supplied) | Not applicable |
| Autoignition Temp (°F) | Not available. | Vapor Pressure (mmHG) | Negligible |
| Upper Explosive Limit (%) | Not applicable | Specific Gravity (water=1) | 1.72 |
| Lower Explosive Limit (%) | Not applicable | Relative Vapor Density (air=1) | Not applicable |
| Volatile Component (%vol) | Negligible | Evaporation Rate | Not applicable |

### APPEARANCE
Practically odorless, transparent crystals. Soluble in 2.3 parts water, slightly soluble in alcohol. Slowly decomposes in aqueous solution. Hygroscopic.

## Section 10 - CHEMICAL STABILITY

### CONDITIONS CONTRIBUTING TO INSTABILITY
- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerization will not occur.

### STORAGE INCOMPATIBILITY
■ ferricyanide
- mixtures with water, acids,or alcohols may slowly decompose producing hydrocyanic acid
- reacts explosively with strong oxidizers, ammonia chromium trioxide, chromic acid, chromic anhydride, sodium nitrite
- reacts violently with copper(II) nitrate, trihydrate.
- Contact with acids produces toxic fumes
- Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.
- These trifluorides are hypergolic oxidizers. They ignites on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition.
- The state of subdivision may affect the results.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

sodium nitroprusside

### TOXICITY AND IRRITATION
No data for this material.

### CARCINOGEN

| | | |
|---|---|---|
| sodium nitroprusside | US - Rhode Island Hazardous Substance List | IARC |

### SKIN

| | | | |
|---|---|---|---|
| sodium nitroprusside | US - Washington Permissible exposure limits of air contaminants - Skin | Skin | X |
| sodium nitroprusside | US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs) - Skin | Skin | X |
| sodium nitroprusside | US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs) - Skin | Skin | X |
| sodium nitroprusside | Canada - British Columbia Occupational Exposure Limits - Skin | Notation | Skin |
| sodium nitroprusside | US - Hawaii Air Contaminant Limits - Skin Designation | Skin Designation | X |
| sodium nitroprusside | US OSHA Permissible Exposure Levels (PELs) - Skin | Skin Designation | X |
| sodium nitroprusside | US - Oregon Permissible Exposure Limits (Z2) - Skin | Skin | X |
| sodium nitroprusside | US - California Permissible Exposure Limits for Chemical Contaminants - Skin | Skin | X |
| sodium nitroprusside | US - California Permissible Exposure Limits for Chemical Contaminants - Skin | Skin | S |

## Section 12 - ECOLOGICAL INFORMATION

Toxic to aquatic organisms.
May cause long-term adverse effects in the environment.

This material and its container must be disposed of as hazardous waste.

### Ecotoxicity

| Ingredient | Persistence: Water/Soil | Persistence: Air | Bioaccumulation | Mobility |
|---|---|---|---|---|
| sodium nitroprusside | No Data Available | No Data Available | | |

## Section 13 - DISPOSAL CONSIDERATIONS

### US EPA Waste Number & Descriptions

A. General Product Information
Reactivity characteristic: use EPA hazardous waste number D003 (waste code R).

### Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.

- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorized landfill.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate. In most instances the supplier of the material should be consulted.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorized landfill.
- Recycle containers if possible, or dispose of in an authorized landfill.

## Section 14 - TRANSPORTATION INFORMATION

### DOT:

| | | | |
|---|---|---|---|
| Symbols: | None | Hazard class or Division: | 6.1 |
| Identification Numbers: | UN3288 | PG: | III |
| Label Codes: | 6.1 | Special provisions: | IB8, IP3, T1, TP33 |
| Packaging: Exceptions: | 153 | Packaging: Non-bulk: | 213 |
| Packaging: Exceptions: | 153 | Quantity limitations: Passenger aircraft/rail: | 100 kg |
| Quantity Limitations: Cargo aircraft only: | 200 kg | Vessel stowage: Location: | A |
| Vessel stowage: Other: | None | S.M.P.: | YES |

Hazardous materials descriptions and proper shipping names:
Toxic solid, inorganic, n.o.s.

### Air Transport IATA:

| | | | |
|---|---|---|---|
| ICAO/IATA Class: | 6.1 | ICAO/IATA Subrisk: | None |
| UN/ID Number: | 3288 | Packing Group: | III |
| Special provisions: | A3 | | |

| | | | |
|---|---|---|---|
| Cargo Only | | | |
| Packing Instructions: | 677 | Maximum Qty/Pack: | 200 kg |
| Passenger and Cargo | | Passenger and Cargo | |
| Packing Instructions: | 670 | Maximum Qty/Pack: | 100 kg |
| Passenger and Cargo Limited Quantity | | Passenger and Cargo Limited Quantity | |
| Packing Instructions: | Y645 | Maximum Qty/Pack: | 10 kg |

Shipping name:TOXIC SOLID, INORGANIC, N.O.S.(contains sodium nitroprusside)

**Maritime Transport IMDG:**

| | | | |
|---|---|---|---|
| IMDG Class: | 6.1 | IMDG Subrisk: | None |
| UN Number: | 3288 | Packing Group: | III |
| EMS Number: | F-A,S-A | Special provisions: | 223 274 |
| Limited Quantities: | 5 kg | | |

Shipping name:TOXIC SOLID, INORGANIC, N.O.S.(contains sodium nitroprusside)

## Section 15 - REGULATORY INFORMATION

**sodium nitroprusside (CAS: 14402-89-2,13755-38-9) is found on the following regulatory lists;**

"Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that meet the ecological criteria for categorization (English)","Canada Domestic Substances List (DSL)","US DOE Temporary Emergency Exposure Limits (TEELs)","US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory"

## Section 16 - OTHER INFORMATION

**LIMITED EVIDENCE**

■ Inhalation and/or skin contact may produce health damage*.
■ Cumulative effects may result following exposure*.
■ May produce skin discomfort*.
* (limited evidence).

**Ingredients with multiple CAS Nos**

| Ingredient Name | CAS |
|---|---|
| sodium nitroprusside | 14402-89-2, 13755-38-9 |

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

■ For detailed advice on Personal Protective Equipment, refer to the following U.S. Regulations and Standards:
OSHA Standards - 29 CFR:
1910.132 - Personal Protective Equipment - General requirements
1910.133 - Eye and face protection
1910.134 - Respiratory Protection
1910.136 - Occupational foot protection
1910.138 - Hand Protection
Eye and face protection - ANSI Z87.1
Foot protection - ANSI Z41
Respirators must be NIOSH approved.