1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers
- **Product name**: Sodium nitroprusside dihydrate
- **Product Number**: S0501
- **Brand**: Sigma
- **CAS-No.**: 13755-38-9

1.2 Relevant identified uses of the substance or mixture and uses advised against
- **Identified uses**: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet
- **Company**: Sigma-Aldrich Company Ltd.
  The Old Brickyard
  NEW ROAD, GILLINGHAM
  Dorset
  SP8 4XT
  UNITED KINGDOM
- **Telephone**: +44 (0)1747 833000
- **Fax**: +44 (0)1747 833313
- **E-mail address**: eurtechserv@sial.com

1.4 Emergency telephone number
- **Emergency Phone #**: +44 (0)1747 833100

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
- **Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**  
  Acute toxicity, Oral (Category 3)
- **Classification according to EU Directives 67/548/EEC or 1999/45/EC**  
  Toxic if swallowed.

2.2 Label elements
- **Labelling according Regulation (EC) No 1272/2008 [CLP]**

  **Pictogram**
  ![Pictogram](image)

  **Signal word**: Danger

  **Hazard statement(s)**
  - **H301**: Toxic if swallowed.

  **Precautionary statement(s)**
  - **P301 + P310**: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

  **Supplemental Hazard Statements**: none

  **According to European Directive 67/548/EEC as amended.**

  **Hazard symbol(s)**
  ![Hazard Symbol](image)
R-phrase(s)  
R25        Toxic if swallowed.  

S-phrase(s)  
S45        In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  

2.3 Other hazards - none  

3. COMPOSITION/INFORMATION ON INGREDIENTS  

3.1 Substances  
Formula: $C_5FeN_6Na_2O \cdot 2H_2O$  
Molecular Weight: 297.95 g/mol  

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium nitroferricyanide(III) dihydrate</td>
<td></td>
</tr>
<tr>
<td>CAS-No.</td>
<td>13755-38-9</td>
</tr>
<tr>
<td>EC-No.</td>
<td>238-373-9</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES  

4.1 Description of first aid measures  

General advice  
Consult a physician. Show this safety data sheet to the doctor in attendance.  

If inhaled  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.  

In case of skin contact  
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.  

In case of eye contact  
Flush eyes with water as a precaution.  

If swallowed  
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.  

4.2 Most important symptoms and effects, both acute and delayed  
May cause cyanosis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  

4.3 Indication of any immediate medical attention and special treatment needed  
no data available  

5. FIREFIGHTING MEASURES  

5.1 Extinguishing media  

Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.  

5.2 Special hazards arising from the substance or mixture  
Carbon oxides, nitrogen oxides (NOx), Sodium oxides, Iron oxides  

5.3 Advice for firefighters  
Wear self contained breathing apparatus for fire fighting if necessary.  

5.4 Further information  
no data available  

6. ACCIDENTAL RELEASE MEASURES  

6.1 Personal precautions, protective equipment and emergency procedures  
Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Moisture sensitive.

7.3 Specific end uses
no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls
Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection
Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: solid
b) Odour no data available
c) Odour Threshold no data available
d) pH no data available
e) Melting point/freezing point no data available
f) Initial boiling point and boiling range no data available
g) Flash point no data available
h) Evaporation rate no data available
i) Flammability (solid, gas) no data available
j) Upper/lower flammability or explosive limits no data available
k) Vapour pressure no data available
l) Vapour density no data available
m) Relative density 1.720 g/cm3
n) Water solubility no data available
o) Partition coefficient: n-octanol/water no data available
p) Autoignition temperature no data available
q) Decomposition temperature no data available
r) Viscosity no data available
s) Explosive properties no data available
t) Oxidizing properties no data available

9.2 Other safety information
no data available

10. STABILITY AND REACTIVITY

10.1 Reactivity
no data available

10.2 Chemical stability
no data available

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
Exposure to moisture may affect product quality.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
LD50 Oral - rat - 99 mg/kg
Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
no data available

Specific target organ toxicity - single exposure
no data available

Specific target organ toxicity - repeated exposure
no data available

Aspiration hazard
no data available

Potential health effects

- **Inhalation**: May be harmful if inhaled. May cause respiratory tract irritation.
- **Ingestion**: Toxic if swallowed.
- **Skin**: May be harmful if absorbed through skin. May cause skin irritation.
- **Eyes**: May cause eye irritation.

Signs and Symptoms of Exposure
May cause cyanosis. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information
RTECS: LJ8925000

12. **ECOLOGICAL INFORMATION**

12.1 **Toxicity**
no data available

12.2 **Persistence and degradability**
no data available

12.3 **Bioaccumulative potential**
no data available

12.4 **Mobility in soil**
no data available

12.5 **Results of PBT and vPvB assessment**
no data available

12.6 **Other adverse effects**
no data available

13. **DISPOSAL CONSIDERATIONS**

13.1 **Waste treatment methods**

**Product**
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: 3288  
IMDG: 3288  
IATA: 3288

14.2 UN proper shipping name
ADR/RID: TOXIC SOLID, INORGANIC, N.O.S. (Sodium nitroferricyanide(III) dihydrate)
IMDG: TOXIC SOLID, INORGANIC, N.O.S. (Sodium nitroferricyanide(III) dihydrate)
IATA: Toxic solid, inorganic, n.o.s. (Sodium nitroferricyanide(III) dihydrate)

14.3 Transport hazard class(es)
ADR/RID: 6.1  
IMDG: 6.1  
IATA: 6.1

14.4 Packaging group
ADR/RID: III  
IMDG: III  
IATA: III

14.5 Environmental hazards
ADR/RID: no  
IMDG Marine pollutant: no  
IATA: no

14.6 Special precautions for user
no data available

15. REGULATORY INFORMATION
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available

15.2 Chemical Safety Assessment
no data available

16. OTHER INFORMATION
Further information
Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.