

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 15.01.2015

Version number 19

Revision: 15.01.2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- **1.1 Product identifier**
- **Trade name:** Sodium Pentacyanonitrosylferrate(III) Dihydrate
- **Article number:** 1190, 1190.W, 3792-04
- **CAS Number:**
13755-38-9
- **EC number:**
238-373-9
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture :** For Laboratory, Research or Manufacturing use.
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Avantor Performance Materials B.V.
P.O.Box 1
7400 AA Deventer
The Netherlands
Tel: (+31) (0)570 - 687500
Fax: (+31) (0)570 - 687574
E-mail : jtbaker.nl@avantormaterials.com
- **Informing department:**
E-mail : pawel.skiba@avantormaterials.com
Avantor Performance Materials Sales Office Tel.: +31(0) 570 687500
- **1.4 Emergency telephone number:**
Environment Health & Safety department
during normal opening times (8 am till 5.30 pm) tel: (+31)(0) 570 687500

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Acute Tox. 3 H301 Toxic if swallowed.
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**
T; Toxic
R25: Toxic if swallowed.
- **Information concerning particular hazards for human and environment:** void

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS06

- **Signal word** Danger
- **Hazard statements**
H301 Toxic if swallowed.
- **Precautionary statements**
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330 Rinse mouth.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

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· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Designation:**
13755-38-9 Sodium Pentacyanonitrosylferrate(III) Dihydrate
- **Identification number(s):**
- **EC number:** 238-373-9

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information**
Instantly remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation** In case of unconsciousness bring patient into stable side position for transport.
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Induce vomiting and call for medical help.
Do not induce vomiting; instantly call for medical help.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **5.2 Special hazards arising from the substance or mixture**
Hydrogen cyanide (HCN)
Nitrogen oxides (NO_x)
- **5.3 Advice for firefighters**
- **Protective equipment:** Wear full protective suit.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:** No special measures required.
- **6.3 Methods and material for containment and cleaning up:**
Dispose of contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Prevent formation of dust.

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- **Information about protection against explosions and fires:** no special requirements
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Store in a locked cabinet or with access restricted to technical experts or their assistants.
Store under dry conditions.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Components with critical values that require monitoring at the workplace:**
- **Additional information:** The lists that were valid during the compilation were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
- **Breathing equipment:**
Not necessary if room is well-ventilated.
In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.
- **Protection of hands:**
Protective gloves.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Not required.
- **Body protection:** Use protective suit.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Crystalline
- **Colour:** Red
- **Smell:** Odourless
- **Odour threshold:** Not determined.
- **pH-value (50 g/l) at 20 °C:** 5
- **Change in condition**
- **Melting point/Melting range:** 0 °C

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· Boiling point/Boiling range:	Not determined
· Flash point:	Not applicable
· Inflammability (solid, gaseous)	Product is not inflammable.
· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Self-inflammability:	Not determined.
· Danger of explosion:	Product is not explosive.
· Critical values for explosion:	
· Lower:	Not determined.
· Upper:	Not determined.
· Steam pressure:	Not applicable.
· Density at 20 °C	1.71 g/cm ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
· Water at 20 °C:	400 g/l
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
· dynamic:	Not applicable.
· kinematic:	Not applicable.
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** Heat, boiling temperatures.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Hydrogen cyanide (prussic acid)

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
 - **Acute toxicity:**
- | |
|---|
| · LD/LC50 values that are relevant for classification: |
| Oral LDLo 20 mg/kg (rat) |
- **Primary irritant effect:**
 - **on the skin:** No irritant effect.
 - **on the eye:** redness
 - **Sensitisation:** No sensitizing effect known.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

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- **Additional ecological information:**
- **General notes:**
Water hazard class (D) 2 (Self-assessment): hazardous for water.
Do not allow product to reach ground water, water bodies or sewage system.
Danger to drinking water if even small quantities leak into soil.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
· **ADR, IMDG, IATA** UN1588
- **14.2 UN proper shipping name**
· **ADR** 1588 CYANIDES, INORGANIC, SOLID, N.O.S. (Sodium Pentacyanonitrosylferrate(III) Dihydrate)
· **IMDG** CYANIDES, INORGANIC, SOLID, N.O.S. (Sodium Pentacyanonitrosylferrate(III) Dihydrate)
· **IATA** CYANIDES, INORGANIC, SOLID, N.O.S.
- **14.3 Transport hazard class(es)**
· **ADR**

· **Class** 6.1 (T5) Toxic substances.
· **Label** 6.1
- **IMDG, IATA**

· **Class** 6.1 Toxic substances.
· **Label** 6.1
- **14.4 Packing group**
· **ADR, IMDG, IATA** II
- **14.5 Environmental hazards:**
· **Marine pollutant:** No
- **14.6 Special precautions for user** Warning: Toxic substances.
· **Kemler Number:** 60
· **EMS Number:** F-A,S-A

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· Segregation groups	Cyanides
· 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	500 g
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN1588, CYANIDES, INORGANIC, SOLID, N.O.S. (Sodium Pentacyanonitrosylferrate(III) Dihydrate), 6.1, II

SECTION 15: Regulatory information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Labelling according to Regulation (EC) No 1272/2008
The substance is classified and labelled according to the CLP regulation.
- Hazard pictograms



GHS06

- Signal word *Danger*
- Hazard statements
H301 Toxic if swallowed.
- Precautionary statements
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P330 Rinse mouth.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Department issuing data specification sheet: EHS
- Contact: Paweł Skiba
- Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 3: Acute toxicity, Hazard Category 3

*** Data compared to the previous version altered.**

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