



Safety Data Sheet

Date of Issue: 09.11.2020

Date of Expiry: 09.11.2025

1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Company Name : **ECP Limited**
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Emergency phone number : 0800 243 622 (24 hours)

| Product | FERRIC NITRATE NONAHYDRATE | | | Code | 3830 |
|-----------|----------------------------|------|-------------|-----------------|------|
| CAS# | HSNO# | UN # | DG Class/es | Packing group # | |
| 7782-61-8 | HSR006894 | 3260 | 8 | II | |

Recommended use : Laboratory Investigations

2: Hazards identification

2.1 GHS Classification

Oxidizing liquids or solids (Category C), H272

Acute toxicity, Oral (Category E), H303

Skin irritation (Category A), H315

Eye irritation (Category A), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word **Warning**

Hazard statement(s)

H272 May intensify fire, oxidizer.

H303 May be harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statement(s)

Prevention

P210 Keep away from heat.

P220 Keep/Store away from clothing/ combustible materials.

P221 Take any precaution to avoid mixing with combustibles.

P264 Wash skin thoroughly after handling.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 Call a POISON CENTER/doctor if you feel unwell.

P321 Specific treatment

P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Disposal

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards – none

3: Composition/information on ingredients

Substance / Mixture : Substance

3.1 Substances

Synonyms : Ferric nitrate nonahydrate

Formula : $\text{FeN}_3\text{O}_9 \cdot 9\text{H}_2\text{O}$

Molecular weight : 404.00 g/mol

CAS-No. : 7782-61-8

EC-No. : 233-899-5

Hazardous components

| Component | Classification | Concentration |
|-----------------------------------|---|---------------|
| Ferric nitrate nonahydrate | | |
| | 5.1.1 C; 6.1 E; 6.3 A; 6.4 A; H272, H303, H315, H319 | <= 100 % |

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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. 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

The most important known symptoms and effects are described in the labelling

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

Nitrogen oxides (NO_x), Sulphur oxides, Borane/boron oxides, Iron oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6: Accidental release measures

6.1 Personal precautions, protective equipment, and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

6.2 Environmental precautions

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 formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in cool place.

Hygroscopic. Air sensitive. Store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

| Component | CAS No. | Value | Control parameters | Basis |
|----------------------------|-----------|---------|---------------------|--|
| Ferric nitrate nonahydrate | 7782-61-8 | WES-TWA | 1 mg/m ³ | New Zealand. Workplace Exposure Standards for Atmospheric Contaminants |

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands

before breaks and at the end of workday.

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

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 N100 (US) or type P3 (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).

Control of environmental exposure

Do not let product enter drains.

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 | :1.5 at 20 °C |
| e) Melting point/freezing point | :No data available |
| g) Flash point | :Not applicable |
| 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 | :1.68 g/cm ³ at 20 °C |
| n) Water solubility | :soluble |
| o) Partition coefficient: n-octanol/water | :No data available |
| p) Auto-ignition temperature | :No data available |
| q) Decomposition temperature | :> 100 °C - |
| r) Viscosity | :No data available |
| s) Explosive properties | :No data available |
| t) Oxidizing properties | :The substance or mixture is not classified as oxidizing. |

9.2 Other safety information

No data available

10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Organic materials, Powdered metals

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NO_x),

Sulphur oxides, Borane/boron oxides, Iron oxides

Other decomposition products - No data available

In the event of fire: see section 5

11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 3,250 mg/kg

Remarks: (RTECS)

Inhalation: Irritating to respiratory system.

LD50 Dermal - Rat - male and female - > 2,000 mg/kg

(OECD Test Guideline 402)

Remarks: (in analogy to similar products)

Skin corrosion/irritation

Causes severe burns.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

Local lymph node assay (LLNA) - Mouse

Result: Not a skin sensitizer.

(OECD Test Guideline 429)

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

Acute oral toxicity - Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Nausea, Vomiting

Acute inhalation toxicity - Possible damages: mucosal irritations

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: NO7175000

Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer., Nausea, Dizziness, Headache, Weakness, Incoordination., Confusion., Cyanosis, Coma
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

gastric pain, bloody diarrhoea, Circulatory collapse

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

The following applies to soluble iron compounds: nausea and vomiting after swallowing.

The absorption of large quantities is followed by cardiovascular disorders. Toxic effect on liver and kidneys.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

12: Ecological information

12.1 Toxicity

No data available

12.2 Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Discharge into the environment must be avoided.

13: Disposal considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. 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 Table

| | | ADR/RID – European packaging certification | IMDG International Maritime Dangerous Goods Code | IATA – DGR International Air Travel Association – Dangerous Goods Regulations |
|------|-----------|---|--|---|
| 14.1 | UN Number | 3260 | 3260 | 3260 |

| | | | | |
|------|-------------------------------------|---|---|---|
| 14.2 | UN Proper Shipping name | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Ferric nitrate nonahydrate) | CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Ferric nitrate nonahydrate) | Corrosive solid, acidic, inorganic, n.o.s. (Ferric nitrate nonahydrate) |
| 14.3 | Transport Hazard Class | 8 | 8 | 8 |
| 14.4 | Packaging group | II | II | II |
| 14.5 | Environmental Hazards | no | no | no |
| 14.6 | Special precautions for user | None | | |
| 14.7 | Incompatible materials | Organic materials, Powdered metals | | |

15: Regulatory information

15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture

National regulatory information

HSNO Approval Code: HSR006894

HSNO Group Standard Approval: HSR002693 - Laboratory Chemicals and Reagent Kits (Oxidising [5.1.1]) Group Standard 2006

Tracking Required: not required

Approved Handler Cert.: not required

16: Disclaimer

The information above is believed to be accurate and represents the best information currently available to us. However, the information is not a guarantee expressed or implied, with respect to such information, and we assume no liability resulting from its use. Anyone using the chemical described here should ensure that he or she has the appropriate training and has the expertise and any equipment required for safe handling. If clarification or further information is required, please contact ECP Ltd or refer to the official handler of dangerous goods within your own company. The user should also make their own investigations to determine the suitability of the product 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.

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