



## Safety Data Sheet

Date of Issue: 08.07.2024

Date of Expiry: 08.07.2029

### 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Company Name** : ECP Limited  
**Address** : PO Box 34125, Birkenhead, Auckland 0746  
**Telephone** : +64 9 480 4386  
**Facsimile** : +64 9 480 4385  
**Emergency phone number** : 0800 243 622 (24 hours)

<b>Product Name</b>	<b>Iron (III) Nitrate (Ferric Nitrate Nonahydrate)</b>
<b>Product Code</b>	28501, 3830
<b>CAS No.</b>	7782-61-8

**Recommended use** : Laboratory Investigations

### 2: Hazard's identification

#### 2.1 GHS Classification – EPA Classification NZ

Oxidizing Solid (category 3)  
Acute Toxicity (Oral) (Category 4)  
Eye Irritation (Category 2)

#### 2.2 GHS Label elements, including precautionary statements

##### Pictogram



##### Hazard statement(s)

H272 May intensify fire; oxidiser.  
H302 Harmful if swallowed.  
H319 Causes serious eye irritation.

##### Precautionary statement(s)

###### Prevention

P260 Do not breathe dusts or mists.  
P264 Wash skin thoroughly after handling.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

###### Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/ physician.

P321 Specific treatment (see supplemental first aid instructions on this label).  
P363 Wash contaminated clothing before reuse.

### Storage

P405 Store locked up.

### Disposal

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

## 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	:	Ferric nitrate nonahydrate
Formula	:	FeN3O9 · 9H2O
Molecular weight	:	404.00 g/mol
CAS-No.	:	7782-61-8
EC-No.	:	233-899-5

## 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 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 extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

### 5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NOx)

Iron oxides  
Not combustible.  
Ambient fire may liberate hazardous vapours.

### 5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4 Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

## 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### 6.4 Reference to other sections

For disposal see section 13.

## 7: Handling and storage

### 7.1 Precautions for safe handling

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage conditions

Tightly closed. Dry.

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

#### Occupational Exposure Limits Table

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

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

## Personal protective equipment

### Eye/face protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards.

### 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 or 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.

### 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
Color	:	Off-white to violet crystals
b) Odor	:	Slight nitric acid
c) Odor Threshold	:	No data available
d) pH	:	ca.1.3 at 100 g/l at 20 °C
e) Melting point/freezing point		
Melting point/range	:	47 °C - lit.
f) Initial boiling point		
and boiling range	:	Not applicable
g) Flash point	:	Not applicable
h) Evaporation rate	:	No data available
i) Flammability (solid, gas)	:	The product is not flammable.
j) Upper/lower flammability or explosive limits	:	No data available
k) Vapor pressure	:	No data available
l) Vapor density	:	No data available
m) Relative density	:	No data available
n) Water solubility	:	825 g/l - Regulation (EC) No. 440/2008, Annex, A.6-soluble
o) Partition coefficient:		
n-octanol/water	:	Not applicable for inorganic substances
p) Autoignition temperature	:	No data available
q) Decomposition temperature:		
ca.100 °C - Elimination of water of crystallization		
ca.125 °C - decomposes		
r) Viscosity		
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available

- s) Explosive properties : No data available  
t) Oxidizing properties : No data available

## 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Risk of explosion with:

dimethyl sulfoxide

Reducing agents

increased reactivity with:

organic combustible substances

Powdered metals

### 10.4 Conditions to avoid

no information available

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

## 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

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

(OECD Test Guideline 401)

Remarks: (in analogy to similar compounds)

The value is given in analogy to the following substances: Ferrous sulfate heptahydrate

Symptoms: Irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract., Nausea, Vomiting

Symptoms: Shortness of breath, Cough, mucosal irritations

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

(OECD Test Guideline 402)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: iron dichloride

#### Skin corrosion/irritation

Causes skin burns. (ECHA) (anhydrous substance)

#### Serious eye damage/eye irritation

Causes serious eye damage. (ECHA) (anhydrous substance)

#### Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative

(OECD Test Guideline 429)

Remarks: (anhydrous substance)

The value is given in analogy to the following substances: iron(III) nitrate

Germ cell mutagenicity

Test Type: Micronucleus test

Species: Mouse  
Cell type: Intraduodenal  
Application Route: Oral  
Result: negative  
Remarks: (in analogy to similar products)  
The value is given in analogy to the following substances: Ferrous sulfate heptahydrate

Carcinogenicity : No data available  
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

### 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 13 Weeks - NOAEL (No observed adverse effect level) - 277 - 314 mg/kg

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Iron trichloride hexahydrate

RTECS: NO7175000

Absorption into the body leads to the formation of methaemoglobin 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: methemoglobinemia 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 cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

## 12: Ecological information

### 12.1 Toxicity

#### Acute Toxicity - Fish

LC50 (L. idus): 10 - 20 mg/l.

The following applies to dissolved iron compounds in general: fish: toxic as from 0.9 mg/l at pH 6.5 - 7.5;

lethal as from 1 mg/l at pH 5.5 - 6.7;

50 mg/l iron upper limit for fish life.

The following applies to nitrates in general: may contribute to the eutrophication of water supplies.

Hazard for drinking water.

LC50 >500 mg/l

## 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

When iron ions flocculate in an alkaline medium, mechanical damage occurs in aquatic organisms.

The following applies to nitrates in general: may contribute to the eutrophication of water supplies.

Hazard for drinking water.

## 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

## 14: Transport Information Table

		<b>ADR/RID – European packaging certification</b>	<b>IMDG International Maritime Dangerous Goods Code</b>	<b>IATA – DGR International Air Travel Association – Dangerous Goods Regulations</b>
14.1	<b>UN Number</b>	1466	1466	1466
14.2	<b>UN Proper Shipping name</b>	Ferric nitrate nonahydrate	Ferric nitrate nonahydrate	Ferric nitrate nonahydrate
14.3	<b>Transport Hazard Class</b>	5.1	5.1	5.1
14.4	<b>Packaging group</b>	III	III	III
14.5	<b>Environmental Hazards</b>	No	No	no
14.6	<b>Special precautions for user</b>	None		

## 15: Regulatory information

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

#### National regulatory information

HSNO Approval Code: HSR001325

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.

---

\*\*\*END\*\*\*\*\*END\*\*\*\*\*END\*\*\*\*\*END\*\*\*\*\*END\*\*\*