Safety Data Sheet

1. Identification

GHS Product Identifier: IRON (III) NITRATE Nonahydrate
Company Name: CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address: 38 - 50 Bedford Street GILLMAN
          SA 5013  Australia
Telephone/Fax Number: Tel: (08) 8440-2000
                         Fax: (08) 8440-2001

Recommended use of the chemical and restrictions on use:
Mordant in dyeing, weighting silks, tanning, analytical reagent, laboratory reagent, oxidising agent and corrosion inhibitor.

Other Names:
- IRON(III) NITRATE Nonahydrate AR
- IRON(III) NITRATE Nonahydrate LR
- Ferric nitrate Nonahydrate

Additional Information:
- When used for laboratory chemical analysis, it has no poison schedule. If this compound is used in human or animal application then it may acquire a poison schedule of S6, S5, S4 or S2.
- EMERGENCY CONTACT NUMBER: +61 08 8440 2000
- Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture:
- Eye Damage/Irritation: Category 1
- Skin Corrosion/Irritation: Category 1A
- DANGER

Hazard Statement (s):
- H314 Causes severe skin burns and eye damage.

Pictogram (s):
- Corrosion

Precautionary statement – Prevention:
- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P264 Wash thoroughly after handling.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary statement – 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.
- P363 Wash contaminated clothing before reuse.

Precautionary statement – Storage:
- P405 Store locked up.
Iron (III) Nitrate Nonahydrate

3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical Characterization</th>
<th>Ingredients</th>
<th>Name</th>
<th>CAS</th>
<th>Proportion</th>
<th>Hazard Symbol</th>
<th>Risk Phrase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid</td>
<td>Iron (III) Nitrate nonahydrate</td>
<td>7782-61-8</td>
<td>100 %</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

4. First-aid measures

**Inhalation**
If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear.

**Ingestion**
Rinse mouth thoroughly with water immediately. Give plenty of water to drink. Do not induce vomiting. Seek immediate medical assistance.

**Skin**
Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Seek medical attention.

**Eye contact**
Maintain eyewash fountain and safety shower in work area.

**First Aid Facilities**
Consult Poisons Information Centre.

**Advice to Doctor**
For advice, contact a Poisons Information Centre (Phone eg Australia 13 1126; New Zealand 0800 764 766) or a doctor at once.

5. Fire-fighting measures

**Suitable extinguishing media**
Use water spray, dry chemical, carbon dioxide, or appropriate foam.

**Hazards from Combustion Products**
May liberate toxic fumes in fire including nitrous gases, nitrogen oxides, iron oxides.

**Hazchem Code**
2X

**Decomposition Temp.**
~125 °C (release of crystalline water @ ~100 °C).

**Precautions in connection with Fire**
Wear SCBA and chemical splash suit. Structural firefighter's uniform will provide limited protection.

6. Accidental release measures

**Personal Precautions**
Evacuate the area of all non-essential personnel. Avoid inhalation, contact with skin, eyes and clothing. Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

**Personal Protection**
Wear protective clothing specified for normal operations (see Section 8)

**Clean-up Methods - Small Spillages**
Sweep up and remove to a suitable, clearly labelled container for disposal in accordance with local regulations. Do not use rags, sawdust or other combustible absorbents to wipe up spilled material.

**Environmental Precautions**
Use appropriate containment to avoid environmental contamination. Prevent from entering into drains, ditches, rivers or the sea.

7. Handling and storage

**Precautions for Safe Handling**
Avoid substance contact and generation and inhalation of dust.

**Conditions for safe storage, including any incompatibilities**
Store in a cool, dry place. Store in well ventilated area. Store away from combustible materials. Keep containers closed at all times.

**Corrosiveness**
Solutions in water are slightly corrosive to metals.

**Storage Regulations**
Refer Australian Standard AS 3780-1994 'The storage and handling of corrosive substances'.

8. Exposure controls/personal protection
Iron (III) Nitrate Nonahydrate

Occupational exposure limit values

<table>
<thead>
<tr>
<th>Name</th>
<th>STEL</th>
<th>TWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron (III) Nitrate nonahydrate</td>
<td>1.0 mg/m³</td>
<td>1.0 ppm</td>
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</tbody>
</table>

Other Exposure Information

A time weighted average (TWA) has been established for Iron salts, soluble (as Fe) (Safe Work Australia) of 1 mg/m³. The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week.

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Respiratory Protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye Protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate.

Hand Protection

Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Nitrile rubber gloves

Personal Protective Equipment

Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.

Footwear

Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use. Recommendation: Rubber boots.

Body Protection

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

9. Physical and chemical properties

Form: Solid
Appearance: Pale-violet crystals.
Odour: Weak of nitric acid.
Decomposition Temperature: ~125 °C (release of crystalline water @ ~100 °C).
Melting Point: 47.2 °C (decomposes)
Solubility in Water: Soluble.
Specific Gravity: 1.684
pH: ~1.3 (100 g/l, H2O, 20 °C)
Flammability: Not combustible but assists combustion of other substances.
Molecular Weight: 404.00
Oxidising Properties: Has been shown not to be oxidising in a test following Directive 67/548/EEC (Method A17, oxidising properties).

10. Stability and reactivity

Chemical Stability: Hygroscopic, sensitive to moisture.
Conditions to Avoid: Incompatibilities.
Hazardous Decomposition Products: May liberate toxic fumes in fire including nitrous gases, nitrogen oxides, iron oxides.
Polymerization: Will not occur.
11. Toxicological Information

Acute Toxicity - Oral
LD50 (rat): 3.25 g/kg (Smyth).

Ingestion
May cause irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract, gastrointestinal discomfort, bloody diarrhoea and vomiting. Effects of ingestion of large amounts may be delayed for several hours and can include epigastric pain, hematemesis, possible circulatory failure and collapse.

Inhalation
Inhalation of dust causes irritation to mucous membranes and respiratory tract. Symptoms include coughing and dyspnoea (shortness of breath).

Skin
Causes skin burns.

Eye
Risk of serious eye damage.

Carcinogenicity
No evidence of carcinogenic properties.

Health Hazard
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.

Chronic Effects
The continued administration of medicinal amounts may cause constipation.

Mutagenicity
No evidence of mutagenic properties.

12. Ecological Information

Persistence and degradability
Methods for the determination of biodegradability are not applicable to inorganic substances.

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

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

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

13. Disposal Considerations

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

14. Transport Information

U.N. Number
CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.

Transport Hazard class(es)
8

Hazchem Code
2X

Packaging Method
3.8.8

Packing Group
II

IERG Number
37

15. Regulatory Information

Listed in the Australian Inventory of Chemical Substances (AICS).

Not Scheduled


Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.

Safe Work Australia, 'Hazardous Substances Information System, 2005'.

Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.


Standard for the Uniform Scheduling of Medicines and Poisons No. 6', Commonwealth of Australia, February 2015.

Literature References

Contact Person/Point

Paul McCarthy Ph. (08) 8440 2000

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Empirical Formula & Structural Formula

Fe(NO3)3.9H2O

...End Of MSDS...