



Infosafe No™	1CH3D	Issue Date : May 2020	RE-ISSUED by CHEMSUPP
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Product Name : **IRON (III) NITRATE Nonahydrate**

Classified as hazardous

**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

**Emergency phone number** CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

**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****Name****Product Code**

IRON(III) NITRATE Nonahydrate AR

FA006

IRON(III) NITRATE Nonahydrate LR

FL006

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.

**Other Information**

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

**Signal Word (s)** 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.  
P363 Wash contaminated clothing before reuse.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**Precautionary statement – Storage**

P310 Immediately call a POISON CENTER or doctor/physician.  
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P405 Store locked up.



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**Other Information** Hours or days after apparent recovery, metabolic acidosis, convulsions and coma may occur. If the patient survives, symptoms of acute liver necrosis may develop and could lead to death due to hepatic coma.

**3. Composition/information on ingredients****Chemical** Solid**Characterization****Ingredients**

<u>Name</u>	<u>CAS</u>	<u>Proportion</u>	<u>Hazard Symbol</u>	<u>Risk Phrase</u>
Iron (III) Nitrate nonahydrate	7782-61-8	100 %		

**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. Consult a physician.

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

**Skin** Wash affected areas with copious quantities of water. Remove contaminated clothing and wash before re-use. Seek medical advice.

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

**First Aid Facilities** Maintain eyewash fountain and safety shower in work area.

**Advice to Doctor** Consult Poisons Information Centre.

**Other Information** 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**



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Occupational exposure limit values	Name	STEL		TWA		Footnote
		mg/m3	ppm	mg/m3	ppm	
	Iron (III) Nitrate nonahydrate			1.0		
<b>Other Exposure Information</b>	These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity. A time weighted average (TWA) has been established for Iron salts, soluble (as Fe) (Safe Work Australia) of 1 mg/m <sup>3</sup> . 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					
<b>Appropriate engineering controls</b>	process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.					
<b>Respiratory Protection</b>	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.					
<b>Eye Protection</b>	The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.					
<b>Hand Protection</b>	Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: Nitrile rubber gloves					
<b>Personal Protective Equipment</b>	Personal protective equipment should not solely be relied upon to control risk and should only be used when all other reasonably practicable control measures do not eliminate or sufficiently minimise risk. Guidance in selecting personal protective equipment can be obtained from Australian, Australian/New Zealand or other approved standards.					
<b>Footwear</b>	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.					
<b>Body Protection</b>	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**

<b>Form</b>	Solid
<b>Appearance</b>	Pale-violet crystals.
<b>Odour</b>	Weak of nitric acid.
<b>Decomposition Temperature</b>	~125 °C (release of crystalline water @ ~100 °C).
<b>Melting Point</b>	47.2 °C (decomposes)
<b>Solubility in Water</b>	Soluble.
<b>Solubility in Organic Solvents</b>	Freely soluble in alcohol and acetone. Slightly soluble in cold concentrated HNO <sub>3</sub> .
<b>Specific Gravity</b>	1.684
<b>pH</b>	~1.3 (100 g/l, H <sub>2</sub> O, 20 °C)
<b>Flammability</b>	Not combustible but assists combustion of other substances.
<b>Molecular Weight</b>	404.00
<b>Oxidising Properties</b>	Has been shown not to be oxidising in a test following Directive 67/548/EEC (Method A17, oxidising properties).

**10. Stability and reactivity**

<b>Chemical Stability</b>	Hygroscopic, sensitive to moisture.
<b>Conditions to Avoid</b>	Incompatibles.
<b>Incompatible Materials</b>	Risk of explosion with: dimethyl sulfoxide. Increased reactivity with: organic combustible substances, reducing agents, powdered metals.



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**Hazardous Decomposition Products** May liberate toxic fumes in fire including nitrous gases, nitrogen oxides, iron oxides.**Hazardous 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.**Respiratory sensitisation** Not classified based on available information.**Skin Sensitisation** Not classified based on available information.**Germ cell mutagenicity** Not classified based on available information.**Carcinogenicity** No evidence of carcinogenic properties.**Reproductive Toxicity** Not classified based on available information.**STOT-single exposure** Not classified based on available information.**STOT-repeated exposure** Not classified based on available information.**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. The following applies to nitrates in general: may contribute to the eutrophication of water supplies. Hazard for drinking water.**Environmental Protection** Do not allow to enter waters, waste water, or soil!**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 &gt;500 mg/l

**13. Disposal considerations****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****Transport Information** Dangerous goods of Class 8 (Corrosive) are incompatible in a placard load with any of the following: Class 1, Class 4.3, Class 5, Class 6, if the Class 6 dangerous goods are cyanides and the Class 8



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<b>U.N. Number</b>	dangerous goods are acids, Class 7; and are incompatible with food and food packaging in any quantity. 3260
<b>UN proper shipping name</b>	CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
<b>Transport hazard class(es)</b>	8
<b>Hazchem Code</b>	2X
<b>Packaging Method</b>	3.8.8
<b>Packing Group</b>	II
<b>IERG Number</b>	37

**15. Regulatory information**

<b>Regulatory Information</b>	Listed in the Australian Inventory of Chemical Substances (AICS). Not listed under WHS Regulation 2011, Schedule 10 - Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.
<b>Poisons Schedule</b>	Not Scheduled

**16. Other Information**

<b>Literature References</b>	'Standard for the Uniform Scheduling of Medicines and Poisons .', Commonwealth of Australia. Lewis, Richard J. Sr. 'Hawley's Condensed Chemical Dictionary 13th. Ed.', Rev., John Wiley and Sons, Inc., NY, 1997. National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.', 2007. Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', 2011. Standards Australia, 'SAA/SNZ HB 76:2010 Dangerous Goods - Initial Emergency Response Guide', Standards Australia/Standards New Zealand, 2010. Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'. Safe Work Australia, 'Hazardous Chemical Information System, 2005'. Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'. Safe Work Australia, 'National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995) 3rd Edition]'. Paul McCarthy Ph. (08) 8440 2000 <b>DISCLAIMER STATEMENT:</b> All information provided in this data sheet or by our technical representatives is compiled from the best knowledge available to us. However, since data, safety standards and government regulations are subject to change and the conditions of handling and use, or misuse, are beyond our control, we make no warranty either expressed or implied, with respect to the completeness or accuracy to the information contained herein. Chem-Supply accepts no responsibility whatsoever for its accuracy or for any results that may be obtained by customers from using the data and disclaims all liability for reliance on information provided in this data sheet or by our technical representatives.
<b>Contact Person/Point</b>	

**Empirical Formula & Structural Formula** Fe(NO<sub>3</sub>)<sub>3</sub>.9H<sub>2</sub>O

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