

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **CalMag Iron HG**
 Product Use: Fertilizer.
 Restriction of Use: Refer to Section 15

New Zealand Supplier: Horticulture Ltd
 Address: 10 Firth Street
 Drury, 2113

Telephone: +64 9 294 8453
 Fax Number: +64 9 294 7272

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 10 March 2022

Section 2. Hazards Identification

Classified as hazardous according to Regulation (EC) No. 1272/2008 which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2020.

EPA Approval No: Fertilisers (subsidiary) – HSR002571

Pictograms



Signal Word: **DANGER**

| GHS Classification and Category | Hazard Code | Hazard Statement |
|---------------------------------|-------------|----------------------------|
| Acute oral toxicity Cat. 4 | H302 | Harmful if swallowed. |
| Serious eye damage Cat. 1 | H318 | Causes serious eye damage. |

| Prevention Code | Prevention Statement |
|-----------------|---|
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective clothing as detailed in Section 8. |

| Response Code | Response Statement |
|---------------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P310 | Immediately call a POISON CENTER or doctor/physician. |

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| P330 | Rinse mouth. |
| P391 | Collect spillage. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| P305 + P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

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|---------------------|--------------------------|
| Storage Code | Storage Statement |
| None allocated | |

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|----------------------|--|
| Disposal Code | Disposal Statement |
| P501 | Dispose of according to Local Regulations or Authorities |

Section 3. Composition / Information on Ingredients

| Ingredients | Wt% | CAS NUMBER. |
|-------------------------------|-------|-------------|
| Magnesium nitrate hexahydrate | 35-40 | 13446-18-9 |
| Calcium nitrate | 50-55 | 10124-37-5 |
| Ammonium Nitrate | 1-5 | 6484-52-2 |
| FeIDHA | 1-3 | 666828-40-6 |

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes Remove victim from polluted area. Immediately flush eyes with plenty of water (> 15min), occasionally lifting the upper and lower eyelids. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical advice immediately.

If on Skin Remove victim from polluted area. Remove all contaminated clothing and footwear. Rinse and then wash skin thoroughly with water and soap. Take victim to a doctor if irritation occurs.

If Swallowed Rinse mouth with water. If victim conscious and alert, give 1-2 glasses of water to drink. Immediately call a POISON CENTER/doctor. Ingestion of large quantities: immediately to hospital.

If Inhaled Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Inhalation: Not applicable.
 Ingested: Harmful if swallowed.
 Skin: Not applicable.
 Eye: Causes serious eye damage.

Advice to Doctor: Treat symptomatically.

Section 5. Fire Fighting Measures

| | |
|-------------------------------------|---|
| Hazard Type | The product is non-flammable and non-combustible. |
| Hazards from products | Hazardous decomposition / combustion products: produces oxides of nitrogen on combustion: NyOx |
| Suitable Extinguishing media | Use water only! Contact professional fire-fighters immediately. For small fires, do NOT use chemicals, carbon dioxide, halon or foams. For large fires flood fire with water from a distance. |

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| Precautions for firefighters and special protective clothing | As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Clothing resistant to high temperatures. Independent self-contained breathing apparatus. High temperatures may cause pressure build-up in closed containers. During the thermal decomposition produced of harmful compounds. Reduce dust and vapour with water spray. Brown fumes containing toxic nitrogen oxides. |
| HAZCHEM CODE | None allocated. |

Section 6. Accidental Release Measures

Ensure adequate air ventilation. Avoid all eye and skin contact and do not ingest. Wear PPE as detailed in Section 8. Keep unnecessary and unprotected personnel from entering.

Prevent soil and water pollution. Prevent spreading in sewers.

Any spillage should be cleaned up immediately. Stop leaks if possible. Dam up the solid spill.. Take up mechanically, placing in appropriate containers for recovery or disposal. Dispose as per Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Store in dry, well-ventilated area away from sources of ignition and direct sunlight.
- Keep only in the original container in a covered warehouse.
- Store at ambient temperatures.
- Keep away from incompatibles such as reducing agents, flammable agents, strong acids.
- Keep away from foodstuffs, beverages and feed.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

| Substance | TWA | | STEL | |
|-----------|-----|-------------------|------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ |

No ingredients have exposure limits

Workplace Exposure Standard – Time Weighted Average (WES-TWA). The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure. Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents. The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply. Workplace Exposure Standards and Biological Exposure Indices NOV 2020 12TH EDITION.

| Exposure pattern | Derived No Effect Level (DNEL) | |
|---------------------------|---|--------------------|
| | Workers | General population |
| Oral1 | Not applicable | 8,33 mg/kg bw/d |
| Dermal1 | 15,013,9 mg/kg bw/day | 8,33 mg/kg bw/day |
| Inhalation1 | 98 mg/m ³ | 29 mg/m |
| | Predicted No Effect Level (PNEC) ² | |
| Aqua-freshwater | 0.45 mg/l | |
| Aqua-marine water | 0.045 mg/l | |
| Aqua-intermittent release | 4.5 mg/l | |
| STP | 18 mg/l | |

Engineering Controls

No engineering controls

Personal Protection Equipment



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|--------------------|---|
| Eyes | Use safety goggles. |
| Hands | Wear protective gloves. |
| Skin | Wear suitable protective clothing. |
| Respiratory | Not required. |
| | Care for eyewash stations at the workplace. Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with eyes. |

Section 9 Physical and Chemical Properties

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|---|-----------------------|
| Appearance | Solid, flakes |
| Colour | Yellowish |
| Odour | Specific |
| Odour Threshold | Not available |
| pH | 6 - 7 |
| Boiling Point | Not available |
| Melting Point | Not available |
| Freezing Point | Not available |
| Flash Point | Not available |
| Flammability | Not flammable |
| Upper and Lower Explosive Limits | Not available |
| Vapour Pressure | <0.00001 Pa at 20 ° C |
| Vapour Density | Not available |
| Relative Density | Not available |
| Density | Not available |
| Solubilities | 210 g/100 g water |
| Log Pow | Not available |
| Auto-ignition Temperature | Not available |
| Decomposition Temperature | Not available |
| Viscosity, kinematic | Not available |

Section 10. Stability and Reactivity

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| Stability of Substance | Stable under normal conditions. |
| Reactivity | The mixture reacts with strong reducing agents |
| Conditions to Avoid | Avoid contact with strong heat sources such as solar radiation and flames. |
| Incompatible Materials | Strong reducing agents. |
| Hazardous Decomposition Products | Intensive heated to temperatures > 330 ° C followed by decomposition with emission of toxic gases (nitrogen oxides). |

Section 11 Toxicological Information

Acute Effects:

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|-------------------|----------------------------|
| Swallowed | Harmful if swallowed |
| Dermal | Not applicable. |
| Inhalation | Not applicable. |
| Eye | Causes serious eye damage. |
| Skin | Not applicable. |

Chronic Effects:

| | |
|-------------------------------|-----------------|
| Carcinogenicity | Not applicable. |
| Reproductive Toxicity | Not applicable. |
| Germ Cell Mutagenicity | Not applicable. |
| Aspiration | Not applicable. |
| STOT/SE | Not applicable. |
| STOT/RE | Not applicable. |

Individual Components Data:

| | Calcium Nitrate | Amonium nitrate |
|----------------------------|--|---|
| Acute oral toxicity: | 300 mg/kg bw < LD ₅₀ < 2000 mg/kg bw (OECD 423) | LD ₅₀ : 2950 mg/kg bw (OECD 401) |
| Acute dermal toxicity: | L D ₅₀ : > 2000 mg/kg bw | L D ₅₀ : > 5000 mg/kg bw (OECD 402) |
| Acute inhalation toxicity: | No data, low vapour pressure, no exposure | L D ₅₀ : > 88.8 mg/l (no guideline followed) |
| LOCAL EFFECTS | | |
| Skin irritation: | Not irritating (OECD 404) | Not irritating (OECD 404) |
| Eye irritation: | Irritating (OECD 405) | Irritating (OECD 405) |
| Skin sensitization: | Not sensitizing (OECD 429) | Not sensitizing (OECD 429, with magnesium nitrate, nitric acid ammonium calcium salt, |
| OTHER | | |
| Sub-acute toxicity: | Oral 28-day NOAEL ≥ 1000 mg/kg bw/day (OECD 422) | Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate) |
| | | Oral 52-week NOAEL = 256 mg/kg bw/day (OECD 453, with ammonium sulfate) |
| | | Inhalation 2-weeks NOAEL ≥ 185 mg/m ³ (OECD 410) |
| Mutagenicity: | Negative (OECD 471) | Negative (OECD 471, 473, with nitric acid ammonium calcium salt) |
| | Negative (OECD 473) | Negative (OECD 476, with potassium nitrate) |
| | Negative (OECD 476) | |
| Reproductive toxicity: | Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422) | Oral 28-day NOAEL ≥ 1500 mg/kg bw/day (OECD 422, with potassium nitrate) |
| Carcinogenicity: | No data | Not carcinogenic (OECD 453, with |

Section 12. Ecotoxicological Information

There no available ecotoxicological studies for the mixture as such. The data were based on studies of similar substances.

| | Calcium Nitrate | Amonium nitrate |
|-----------------------------------|--|---|
| Fish (short-term): | 96-h LC ₅₀ : 1378 mg/l (OECD 203) | 48-h LC ₅₀ : 447 mg/l (no guideline followed) |
| Fish (long-term): | No data | No data |
| Daphnia magna (short-term): | 48-h EC ₅₀ : 490 mg/l | 48-h EC ₅₀ : 490 mg/l (no guideline followed, with potassium nitrate) |
| Daphnia magna (long-term): | No data | No data |
| Algae: | 10-d EC ₅₀ : > 1700 mg/l (seawater) | 10-d EC ₅₀ : > 1700 mg/l (seawater, no guideline followed, performed with potassium nitrate) |
| Inhibition of microbial activity: | 3-h EC ₅₀ : >1000 mg/l, NOEC: 180 mg/l (OECD 209) | 3-h EC ₅₀ : >1000 mg/l, NOEC: 180 mg/ (COED 209, with sodium nitrate) |

Persistence and degradability

Biodegradation:

Standard test is not applicable as the mixture is an inorganic. In addition, biodegradation of nitrate can occur under anaerobic conditions, both under natural conditions and as a controlled process in many wastewater treatment plants, resulting in degradation products like nitrite, oxide of nitrogen, nitrogen, or ammonia. Nitrate degradation is fastest in anaerobic conditions. In the anaerobic transformation of nitrate into N₂, N₂O and NH₃, the biodegradation rate in wastewater plant at 20°C is 70 g N/kg dissolved

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| | solid/day. Hydrolysis: No hydrolysable group is present, will completely dissociate into ions. |
| Bioaccumulation | Octanol-water partition coefficient (Kow): Not relevant as the substance is inorganic, but considered to be low based on high water solubility) Bioconcentration factor (BCF): Low potential for bioaccumulation (based on ingredients properties). |
| Mobility in Soil | Adsorption coefficient: Low potential for adsorption (based on ingredients properties). |
| Other adverse effects | No data |

Section 13. Disposal Considerations

Disposal methods: Empty containers contain residue of material on the inner surfaces. Thoroughly empty containers to be transmitted to authorized waste collector

Precautions or conditions to avoid: Do not dispose of untreated packing with ordinary industrial wastes

Section 14 Transport Information

This product is NOT classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

Section 15 Regulatory Information

Classified as hazardous according to Regulation (EC) No. 1272/2008 which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2020.

EPA Approval Code: **Fertilisers (subsidiary) – HSR002571**

| HSWA & EPA Controls | Trigger Quantity |
|-----------------------------|------------------|
| Certified Handler | Not required |
| Location Certificate | Not required |
| Tracking Trigger Quantities | Not required |
| Signage Trigger Quantities | 1000kg |
| Emergency Response Plan | 10 000kg |
| Secondary Containment | 10 000kg |
| Restriction of Use | None |

Section 16 Other Information

Glossary

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|------------------|---|
| Cat | Category |
| EC ₅₀ | Median effective concentration. |
| EEL | Environmental Exposure Limit. |
| EPA | Environmental Protection Authority |
| HSNO | Hazardous Substances and New Organisms. |
| LC ₅₀ | Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it. |
| LD ₅₀ | Lethal dose to kill 50% of test animals/organisms. |
| LEL | Lower explosive level. |
| OSHA | American Occupational Safety and Health Administration. |
| TEL | Tolerable Exposure Limit. |
| TLV | Threshold Limit Value-an exposure limit set by responsible authority. |
| UEL | Upper Explosive Level |
| WES | Workplace Exposure Limit |

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the New Zealand distributor, if further information is required.

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