

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Horti Orange 8-14-35**
 Product Use: Fertiliser
 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: 1 December 2022

Section 2. Hazards Identification

Not classified as hazardous according to Regulation (EC) No. 1272/2008 [CLP] which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2020.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Potassium Nitrate	<55	7757-79-1
Boric Acid	<0.2	10043-35-3

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes: Rinse cautiously with water for 15 minutes. If eye irritation persists: Get medical advice.

If on Skin: Rinse skin with water/shower. If skin irritation occurs: get medical advice/attention.

If Swallowed: If victim conscious and alert, give 2-3 glasses of water to drink. Do not give an unconscious person anything to drink. Victim is fully conscious: immediately induce vomiting. Keep watching the victim. Consult a doctor/medical service if you feel unwell.

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:	May cause irritation to the respiratory tract. Exposure to decomposition products may cause a health hazard.
Skin:	May cause a mild irritation.
Eyes:	May cause slight irritation.
Swallowed:	Swallowing large quantities can give complaints to stomach/bowel. Symptoms may include: Nausea. Vomiting. Diarrhoea

Notes to Doctor: In case of inhalation of decomposition products in a fire, symptoms may be delayed. Medical control during 48 hours after exposure is necessary. The product can cause methemoglobinemia.

Section 5. Fire Fighting Measures

Hazard Type	Product is not self-ignitable, but may support combustion.
Hazards from products	On heating/combustion: formation of toxic and corrosive gases/vapours (ammonia, nitrous vapours, phosphorus oxides, potassium oxides, sulphur oxides, carbon monoxide/carbon dioxide), and formation of metallic fumes.
Suitable Extinguishing media	Use fire extinguishing methods suitable to surrounding conditions. Preferably: water. Do not use chemical extinguishers of foams. Don't use steam or sand to extinguish fire.
Precautions for firefighters and special protective clothing	Do not breathe fumes. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves). Exposure to fire/heat: keep upwind, consider evacuation and have neighbourhood close doors and windows. Dilute toxic gases with water spray. Cool tanks/drums with water spray/remove them into safety. Take account of environmentally hazardous firefighting water.
HAZCHEM CODE	None allocated

Section 6. Accidental Release Measures

Wear suitable protective clothing as detailed in Section 8. Dust cloud production: compressed air/oxygen apparatus. Evacuate all non-essential personnel. Ensure adequate air ventilation. Avoid contact with skin and eyes. Avoid raising dust.

Prevent spreading in sewers. Prevent soil and water pollution.

Containment: Minimise generation of dust. Stop leaks if possible. Do not let the fertilizer to be mixed up with sawdust and oil lubricants. Dilute collected small fertilizer particles mixing them with inert materials (limestone, dolomite, mineral phosphates, gypsum, sand) or dissolve in water.

Methods for cleaning up: Collect spillage. Take up mechanically, placing in appropriate containers for recovery or disposal. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Dispose of according to Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Read Avoid raising dust.
- Use sufficient ventilation. In case of inadequate ventilation wear respiratory protection.
- Avoid contact with skin and eyes.
- Wear protective gloves/protective clothing/eye protection as advised in section 8.

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- Protect from moisture.
- Always wash hands after handling the product.
- Do not eat, drink or smoke when using this product.
- Wash contaminated clothing before reuse.

Precautions for Storage:

- Store, in a cool, well ventilated place away from incompatible materials.
- Storage with combustible substances, agents, acids, alkali, sulphur, chlorates, chlorides, chromates, nitrites, permanganates, metal powders and substances containing such materials as copper, nickel, cobalt, zinc and alloys of any of the aforementioned materials are not recommended.
- Do not use with copper/aluminium – risk of corrosion
- Keep substances away from ignition sources and heat sources.
- Keep substances away from oxidizing agents, combustible materials, inorganic materials.
- Store in dry, cool, well-ventilated area. Avoid unnecessarily exposure to air to prevent absorption of moisture.
- Keep out of direct sunlight. No open flames, no sparks, and no smoking.
- The product in 500 kg big bags must be piled in no more than 4 layers. When bigger bags are used, number of layers must not exceed 3. Keep storage piles at least 1 meter from walls, eaves, beams and lighting.
- Keep packing closed when not in use. Do not store in unlabeled containers.
- Suitable packing material: Polyethylene, polypropylene
- Packing material to avoid: Aluminium, copper, zinc

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 APRIL 2022 13TH EDITION.

Potassium nitrate (7757-79-1)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	20.8 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	36.7 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	12.5 mg/kg bodyweight
Long-term - systemic effects, inhalation	10.9 mg/m ³
Long-term - systemic effects, dermal	12.5 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.45 mg/l
PNEC aqua (marine water)	0.045 mg/l
PNEC aqua (intermittent, freshwater)	4.5 mg/l
PNEC (STP)	
PNEC sewage treatment plant	18 mg/l

Boric acid (10043-35-3)	
DNEL/DMEL (Workers)	
Long-term - systemic effects, dermal	392 mg/kg bw/day

Long-term - systemic effects, inhalation	8.3 mg/m ³
DNEL/DMEL (General population)	
Acute - systemic effects, oral	0.98 mg/kg bodyweight
Long-term - systemic effects, oral	0.98 mg/kg bw/day
Long-term - systemic effects, inhalation	4.15 mg/m ³
Long-term - systemic effects, dermal	196 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	2.02 mg/l (expressed as element)
PNEC aqua (marine water)	2.02 mg/l (expressed as element)
PNEC aqua (intermittent, freshwater)	9.1 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	1.8 mg/kg dwt
PNEC sediment (marine water)	1.8 mg/kg dwt
PNEC (Soil)	
PNEC soil	5.4 mg/kg dwt (expressed as element)
PNEC (STP)	
PNEC sewage treatment plant	10 mg/l

Engineering Controls

Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal Protection Equipment



Eyes	Protective goggles.
Hands	Wear protective gloves and protective clothing. Normal working clothes are suitable.
Respiratory	Dust formation: Dust mask with filter type P2.

Section 9 Physical and Chemical Properties

Appearance	Crystalline solid
Colour	Refer to product
Odour	Almost odourless
Odour Threshold	Not available
pH	Not available
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Product is not self-ignitable, but may support combustion.
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Negligible vapour pressure at ambient conditions
Relative density	Not available
Solubilities	Soluble in water
Log Pow	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity, dynamic	Not available
Particle Characteristics	Not available
Explosive Properties	This fertilizer is not explosive and it has got high resistance to detonation.
Other Properties	Neutral reaction. Hygroscopic.

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	The product is not considered as reactive.
Possible hazardous reactions	To our knowledge, the product does not present any particular risk, under normal conditions of use.
Conditions to Avoid	Avoid high temperatures. Contamination by incompatible materials. Contamination with combustible materials. Keep container tightly closed to prevent moisture pick-up.
Incompatible Materials	May be corrosive to some metals. Do not allow to mix with sawdust and other combustible or organic substances. Storage with combustible substances, agents, acids, alkali, sulphur, chlorates, chlorides, chromates, nitrites, permanganates, metal powders and substances containing such materials as copper, nickel, cobalt, zinc and alloys of any of the aforementioned materials is not recommended.
Hazardous Decomposition Products	On heating/combustion: formation of toxic and corrosive gases/vapours (ammonia, nitrous vapours, phosphorus oxides, potassium oxides, sulphur oxides, carbon monoxide/carbon dioxide). and formation of metallic fumes.

Section 11 Toxicological Information**Acute Effects:**

Swallowed	Not applicable. Swallowing large quantities can give complaints to stomach/bowel.
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Not applicable.
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.

Potassium nitrate (7757-79-1)

LD50 oral rat	3750 mg/kg OECD Guideline 405
LD50 dermal rat	> 5000 mg/kg bw/day OECD Guideline 402
LC50 inhalation rat (mg/l)	> 0.527 mg/l/4h OECD Guideline 403

Boric acid (10043-35-3)

LD50 oral rat	> 2600 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Oral, 15 day(s))
LD50 dermal rabbit	> 2000 mg/kg (FIFRA (40 CFR), 24 h, Rabbit, Male / female, Experimental value, Dermal, 14 day(s))
LC50 inhalation rat (mg/l)	> 2.12 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 14 day(s))

Section 12. Ecotoxicological Information

This product does not present any particular risk for the environment.

Ecology - water

Mild water pollutant (surface water). For Flanders: maximum concentration in drinking water: 50mg/l (magnesium)(M.B. 28/1/2003). Maximum concentration in drinking water: 50 mg/l

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(nitrate) (Directive 98/83/EC). Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to algae (EC50 (72h) >1000 mg/l). Not harmful to aquatic organisms (EC50 >1000 mg/l). Not harmful to activated sludge. May cause eutrophication.

Persistence and degradability	Preparation based on substances which are readily biodegradable.
Bioaccumulation	No bioaccumulation or biomagnifications are expected based on raw material properties (Log Pow < 1).
Mobility in Soil	Soluble in water. Low potential for adsorption (based on substance properties).
Other adverse effects	May cause eutrophication.

Potassium nitrate (7757-79-1)	
LC50 fish 1	162 mg/l (96 h; Pisces)
LC50 other aquatic organisms 1	39 mg/l (96 h; Daphnia magna)
EC50 other aquatic organisms 1	200 - 1000 mg/l (Plankton)
LC50 fish 2	1378 mg/l (96 h; Poecilia reticulata)
LC50 other aquatic organisms 2	490 mg/l (48 h; Daphnia magna)
TLM fish 1	3000 mg/l (96 h; Lepomis macrochirus)
TLM fish 2	162 mg/l (96 h; Gambusia affinis)
Threshold limit other aquatic organisms 1	39 mg/l (96 h; Daphnia magna)
Threshold limit other aquatic organisms 2	490 mg/l (48 h; Daphnia magna)

Boric acid (10043-35-3)	
LC50 fish 1	79.7 mg/l (EPA OPPTS 850.1075, 96 h, Pimephales promelas, Static system, Fresh water, Read-across)
ErC50 (algae)	52.4 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Weight of evidence, GLP)

Section 13. Disposal Considerations

Disposal Method:

Dispose the product, depending on the degree and type of contamination, either as fertilizer or in an authorized waste disposal site. Empty and rinsed containers can be disposed as non-hazardous material or be returned for recycling.

Disposal methods to avoid: None known.

Section 14 Transport Information

This product is NOT classified as a Dangerous Good for transport in NZ; NZS 5433:2020

Section 15 Regulatory Information

Not classified as hazardous according to Regulation (EC) No. 1272/2008 [CLP] which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2020.

Section 16 Other Information

Glossary

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

UEL
WES

authority.
Upper Explosive Level
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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