

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Floranid Twin Permanent 16-7-15**
 Item Code: 000000001318804899
 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: 12 April 2024 v2

Section 2. Hazards Identification

Not classified as hazardous according to Regulation (EC) No. 1272/2008 which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2017.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Ammonium Nitrate	>10- 45	6484-52-2
Iron sulphate	<3	7720-78-7
Zinc sulphate	≤0.05	7733-02-0
disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-)	≤0.5	14025-15-1

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.

If on Skin: Wash with plenty of soap and water. If skin irritation occurs: get medical advice/attention.

If Swallowed: Clean mouth with water and drink afterwards plenty of water. Call a POISON CENTER or doctor/physician 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. In case of lung irritation, first treatment with dexametason aerosol (spray).

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion: Ingestion may provoke the following symptoms: Methaemoglobinemia

Inhalation: Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema).

Skin: Not applicable.

Eye: Not applicable.

Notes to Doctor: Treat symptomatically.

Section 5. Fire Fighting Measures

Hazard Type	Non-combustible substance with oxidizing ingredient
Hazards from combustion products	Can decompose at above 100 °C. Thermal decomposition products: Nitrogen monoxide, nitrogen dioxide, dinitrogen oxide, ammonia Isobutylaldehyde
Suitable Extinguishing media	Water Unsuitable: Foam, Dry chemical, Carbon dioxide (CO ₂), Sand
Precautions for firefighters and special protective clothing	Self-contained breathing apparatus. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
HAZCHEM CODE	None Allocated

Section 6. Accidental Release Measures

Wear protective equipment as detailed in Section 8. Clear area of any unprotected personnel.

Do not flush into surface water or sanitary sewer system.

Retain and dispose of contaminated wash water.

For cleanup use mechanical handling equipment. Dispose as per Section 13.

Section 7. Handling and Storage

Precautions for Handling:

- Wear protective clothing.
- Keep away from direct sunlight.
- Keep away from heat.
- Protect from contamination.
- Protect from moisture.

Precautions for Storage:

- Store away from combustible materials.
- Keep away from sources of ignition – No smoking.
- Keep away from heat, hot surfaces, sparks, open flames.
- Risk of explosion if heated.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance**TWA**
ppm mg/m³**STEL**
ppm mg/m³

None of the components have assigned 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 2023 14TH EDITION.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Long-term systemic effects	36 mg/m ³
	Workers	Skin Contact	Long-term systemic effects	5.12 mg/kg/bw/day
	Consumers	Ingestion	Long-term systemic effects	2.56 mg/kg/bw/day
	Consumers	Inhalation	Long-term systemic effects	8.9 mg/m ³
Iron Sulphate	Consumers	Skin contact, ingestion	Acute effects, systemic effects	2.56 mg/kg/bw/day
	Workers	Skin contact	Acute effects, systemic effects	2.8 mg/kg
Remarks: Exposure time 24 hours				
	Workers	Inhalation	Acute effects, systemic effects	9.9 mg/m ³
	Workers	Skin contact	Chronic effects, systemic effects	1.4 mg/kg
Remarks: Exposure time 24 hours				
	Workers	Inhalation	Chronic Effects, systemic effects	9.9 mg/m ³
	Consumers	Ingestion	Acute effects, systemic effects	1.4 mg/kg
Remarks: Exposure time 24 hours				
	Consumers	Skin contact	Acute Effects, Systemic effects	1.4 mg/kg
Remarks: Exposure time 24 hours				
	Consumers	Inhalation	Acute Effects, Systemic effects	2.5 mg/m ³
	Consumers	Ingestion	Chronic Effects, systemic effects	1.4 mg/kg
Remarks: Exposure time 24 hours				
	Consumers	Skin contact	Chronic Effects, systemic effects	1.4 mg/kg
Remarks: Exposure time 24 hours				
	Consumers	Inhalation	Chronic Effects, systemic effects	2.5 mg/m ³

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
ammonium nitrate	Sewage treatment plant	18 mg/l
iron sulphate	Water	0,045 mg/l
Remarks	This product has no known ecotoxicological effects.	
	Behaviour in waste water treatments plants	2483 mg/l
	Fresh water sediment	246000 mg/kg

	Marine sediment	246000 mg/kg
	Soil	276000 mg/kg

Engineering Controls

No specific controls are needed.

Personal Protection Equipment:

Eyes	In case of dust formation: Safety glasses with side shields.
Hands and Skin	Normal clean work clothing and rubber gloves.
Respiratory	Respiratory protection only if aerosol or dust is formed.

Section 9 Physical and Chemical Properties

Appearance	Granular – various colours
Odour	Odourless
Odour Threshold	Not available
pH	ca. 6.2, Concentration: 100 g/l (20 °C)
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	Not available
Vapour Density	Not available
Relative Density	Not available
Bulk Density	ca. 860 kg/m ³
Solubilities	Soluble
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	>130°C To avoid thermal decomposition, do not overheat.
Kinematic Viscosity	Not available
Particle Size	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	Evolution of ammonia under influence of alkalis.
Conditions to Avoid	Keep away from heat and sources of ignition.
Incompatible Materials	oxidizable substances Strong acids and strong bases
Hazardous Decomposition Products	Nitrogen monoxide, nitrogen dioxide, dinitrogenoxide, Ammonia, Isobutyraldehyd

Section 11 Toxicological Information

Acute Effects:

Swallowed	Not applicable.
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.

Individual component information:

Acute Toxicity:

Chemical Name	Oral – LD50	Dermal – LD50	Inhalation – LC50
Ammonium nitrate	>2950 mg/kg (rat)	>5000mg/kg (Rat)	>88.8mg/L
Iron Sulphate	> 2.000 mg/kg (rat) Method: OECD Test Guideline 401 657 - 4.390 mg/kg (Rat) Method: Calculation method Acute toxicity estimate: 500 mg/kg Method: Converted acute toxicity point estimate	>1992 mg/kg (rat) Method: Converted acute toxicity point estimate	-
Zinc Sulphate	862 – 4429 mg/kg(Rat)	>2000 mg/kg (rat)	-
disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinate]](4-)-N,N',O,O',ON,ON']cuprate(2-)	>1750 mg/kg (Rat)	-	-

Section 12. Ecotoxicological Information

Persistence and degradability	No data available.
Bioaccumulation	Bioaccumulation is unlikely.
Mobility in Soil	No data available.
Other adverse effects	Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. There is a high probability that the product is acute not harmful to aquatic organisms.

Product information details):

Route	Species	Duration	Value LC50/EC50
Toxicity to fish	Oncorhynchus mykiss (rainbow trout)	96 hr	>100 mg/L
Toxicity to daphnia and other aquatic invertebrates	Daphnia (waster flea)	48 hr	>100 mg/L
Toxicity to algae	Scenedesmus subspicatus	72 hr	>100 mg/l

Individual component information details):**ammonium nitrate:**

Route	Species	Duration	Value LC50/EC50
Toxicity to fish	Fish	96 hr	>100 mg/L
Toxicity to daphnia and other aquatic invertebrates	Daphnia (waster flea)	48 hr	490 mg/L
Toxicity to algae	Selenastrum capricornutum (green algae)	10 days	1.700 mg/l

Zinc sulphate:

Route	Species	Duration	Value LC50/EC50
Toxicity to fish	Oncorhynchus mykiss (rainbow trout)	96 hr	0.43 mg/L
Toxicity to daphnia and other aquatic invertebrates	Daphnia (waster flea)	48 hr	1.86 mg/L
Toxicity to algae	Scenedesmus quadricauda (green algae)	120 hr	0.52 mg/l
Toxicity to bacteria	Bacteria	0.5 hr	22.75 mg/l

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-):

Route	Species	Duration	Value LC50/EC50
Toxicity to fish	Fish	-	>100 mg/L
Toxicity to algae	-	-	30 mg/l

Persistence and degradability

No data on the product available.

Physico-chemical removability: DOC reduction

ca. 85 %

Method: OECD 301E/92/69/EWG, C.4-B

Remarks: Readily eliminated from water

Ingredient	Remarks
ammonium nitrate	The methods for determining the biological degradability are not applicable to inorganic substances.
Iron sulphate	The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative Potential

Product: Bioaccumulation is unlikely.

Ingredient	Bioaccumulation
ammonium nitrate	Bioaccumulation is unlikely. (LogPow = -3.1)
Iron sulphate	Accumulation in aquatic organisms is unlikely.

Mobility in Soil

No data on the product available.

Distribution among environmental compartments: Moderately mobile in soils

Ingredient	Mobility
Iron sulphate	Distribution among environmental compartments:

	Medium: Soil. Remarks: Immobile
Isopropanol	HIGH (KOC = 1.06)
Isopropyl Acetate	LOW (KOC = 9.476)

Other adverse effects:

Product: Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. There is a high probability that the product is acute not harmful to aquatic organisms.

Section 13. Disposal Considerations

Disposal Method:

Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned. Dispose as per Local Regulations.

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 which meets New Zealand jurisdiction criteria as per EPA Hazardous Substances (Classification) Notice 2017.

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.
HSW	Health and Safety at Work.
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 2023 14th edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2020

5. HSW (Hazardous Substances) Regulations 2017

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

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