

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Floranid Twin Eagle Master**
 Item Code: 000000001340804899
 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

New Zealand: **0800 764 766 (National Poison Centre)**

Date of SDS Preparation: 23 August 2022 v2

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 (Safety Data Sheets) 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
Borates, tetra sodium salts, pentahydrate	<0.2	12179-04-3
N,N''-(isobutylidene) Diurea	<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. Wash contaminated clothing before reuse. If skin irritation or rash 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 may provoke the following symptoms:
Methaemoglobinemia
Inhalation of decomposition products in high concentration may cause shortness of breath (lung oedema).

Indication of any immediate medical attention and special treatment needed

Treatment 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 Isobutyl aldehyde
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.

For cleanup use mechanical handling equipment.

Do not empty into drains. Retain and dispose of contaminated wash water.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- The product is not flammable.
- Keep away from sources of ignition - No smoking.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Risk of explosion if heated under confinement.
- Protect from contamination.
- Keep away from direct sunlight.
- Protect from moisture.

Precautions for Storage:

- Store away from combustible materials.
- Do not store together with oxidizing and self-igniting products.
- When stored loose do not mix with other fertilizers.
- Keep out of reach of children.
- Keep in a dry place.

Section 8 Exposure Controls / Personal Protection

Occupational Exposure Limits

Contains no substances with occupational exposure limit values.

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium nitrate	Workers	Inhalation	Specific effects	37,6 mg/m ³
Remarks:	Exposure time: 1 d			
	Workers	Skin contact	Specific effects	21,3 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Specific effects	12,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Specific effects	12,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Specific effects	11,1 mg/m ³
Remarks:	Exposure time: 1 d			
iron sulphate	Workers	Skin contact	Acute effects, systemic effects	2,8 mg/kg
Remarks:	Exposure time: 24 h			
	Workers	Inhalation	Acute effects, systemic effects	9,9 mg/m ³
	Workers	Skin contact	Chronic effects, systemic effects	2,8 mg/kg
Remarks:	Exposure time: 24 h			
	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 h			
	Consumers	Skin contact	Acute effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Inhalation	Acute effects, systemic effects	2,5 mg/m ³
	Consumers	Ingestion	systemic effects, Chronic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Skin contact	Chronic effects, systemic effects	1,4 mg/kg
Remarks:	Exposure time: 24 h			
	Consumers	Inhalation	Chronic effects, systemic effects	2,5 mg/m ³
N,N"- (isobutylidene)diurea	Workers	Skin contact	systemic effects	37,5 mg/m ³
Remarks:	Continuous exposure			
	Workers	Inhalation	systemic effects	66,12 mg/m ³
Remarks:	Continuous exposure			

	Consumers	Skin contact	systemic effects	18,75 mg/m3
Remarks:	Continuous exposure			
	Consumers	Inhalation	systemic effects	16,31 mg/m3
Remarks:	Continuous exposure			
	Consumers	Ingestion	systemic effects	9,375 mg/m3
Remarks:	Continuous exposure			

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

Substance name	Environmental Compartment	Value
ammonium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
iron sulphate	Water	
Remarks:	This product has no known ecotoxicological effects.	
	Behaviour in waste water treatment plants	2483 mg/l
	Fresh water sediment	246000 mg/kg
	Marine sediment	246000 mg/kg

	Soil	276000 mg/kg
N,N"-(isobutylidene)diurea	Fresh water	0,5 mg/l
	Marine water	0,05 mg/l
	Fresh water sediment	1,76 mg/l
	Marine sediment	0,176 mg/l
	Soil	10,7 mg/l
	Behaviour in waste water treatment plants	640 mg/l

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	Breathing apparatus 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

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SDS Prepared by: Technical Compliance Consultants (NZ) Ltd
Tel: 64 9 475 5240 www.techcomp.co.nz

Flammability	None
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.
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. LD50 (Rat): > 2,000 mg/kg
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.

Components:

ammonium nitrate:

Acute oral toxicity : LD50 (Rat): > 2.950 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : > 88,8 mg/l
Method: No information available.

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402

Borates, tetra sodium salts, pentahydrate:

Acute oral toxicity : LD50 (Rat): 3.200 - 3.400 mg/kg
Method: No information available

Acute inhalation toxicity : LC50 (Rat): > 2,0 mg/l
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Method: No information available

iron sulphate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat): 657 - 4,390 mg/kg
Method: Calculation method

Acute inhalation toxicity : Remarks: This information is not available.

Acute dermal toxicity : LD50 (Rat): > 1,992 mg/kg
Method: Converted acute toxicity point estimate

disodium [[N,N'-ethylenebis[N-(carboxymethyl)glycinato]](4-)-N,N',O,O',ON,ON']cuprate(2-): Acute oral toxicity : LD50 Oral (Rat): > 1,750 mg/kg

Section 12. Ecotoxicological Information

This product is not hazardous to the environment.

Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: Directive 84/449/EEC, C.2

Toxicity to algae : EC50 (Scenedesmus subspicatus): > 100 mg/l
Exposure time: 72 h
Method: DIN 38412

Toxicity to bacteria : EC0 (Pseudomonas putida): ca. 640 mg/l
Exposure time: 16 h
Test Type: activated sludge
Method: No data available

Components:

ammonium nitrate:

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 490 mg/l
Exposure time: 48 h

LC50 : 490 mg/l

Toxicity to algae : EC50 (Selenastrum capricornutum (green algae)): 1.700 mg/l
Exposure time: 10 d

Borates, tetra sodium salts, pentahydrate:

Toxicity to fish : LC50 (Fish): 74 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 242 mg/l
Exposure time: 24 h

Toxicity to algae : EC10 (Scenedesmus subspicatus): 24 mg/l
Exposure time: 96 h

iron sulphate:

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

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

Toxicity to fish : LC50 (Fish): > 100 mg/l

Toxicity to algae : EC50: 30 mg/l
Exposure time: 96 h

Persistence and degradability	No data available.
Bioaccumulation	Bioaccumulation is unlikely.
Mobility in Soil	No data available.
Other adverse effects	No data available.

Do not allow to enter waterways.

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.

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 (Safety Data Sheets) 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.
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 2022 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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