SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product:	**Hakaphos Calcidic Plus NPK**
Product No:	
Product Use:	Fertilizer
Restrictions of Use:	Refer to Section 15
New Zealand Supplier:	Horticentre 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

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.

EPA Approval Code: Fertilisers (Corrosive Hazard) – HSR002569

Pictograms

Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	H302	Harmful if swallowed.
Skin corrosion Cat. 1B	H314	Causes severe skin burns.
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.
P260	Do not breathe dust, fumes, gas, mist, vapours or spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective clothing.

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.
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.

Storage Code **Storage Statement**

P405	Store locked up.

Disposal Code **Disposal Statement**

P501	Dispose of unwanted product as a hazardous material according to Local Regulations.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Urea Phosphate (1;1)	>1-<5	4861-19-2
Potassium nitrate	>10 – <55	7757-79-1
Nitric Acid, ammonium Calcium Salt	>35-<60	15245-12-2
disodium [[N,N'-ethylenebis[N(carboxymethyl)glycinato]](4-)N,N',O,O',ON,ON']cuprate(2-)	>0.1 -<= 0.2	14025-15-1

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes — Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Seek immediate medical attention.

If on Skin — Wash with plenty of soap and water. Take off all contaminated clothing as wash before reuse. If skin irritation occurs: get medical advice/attention.

If Swallowed — Immediately rinse the mouth with water and drink afterwards plenty of water. Consult the doctor in case of persistent trouble.

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: Harmful if swallowed. Causes severe skin burns. Causes serious eye damage.

Indication of any immediate medical attention and special treatment needed

Treatment Treat symptomatically.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	At temperatures above 130 °C, dangerous decomposition gases can be emitted: Nitrogen monoxide, nitrogen dioxide, dinitrogen oxide, ammonia, Oxides of phosphorus
Suitable Extinguishing media	Water Do not use: Dry Chemical, Carbon dioxide (CO2), Foam, Sand.
Precautions for firefighters and special protective clothing	In the event of fire, wear self-contained breathing apparatus. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
HAZCHEM CODE	**2X**

Section 6. Accidental Release Measures

Wear appropriate PPE as detailed in Section 8. Avoid contact with skin and eyes.

Use mechanical handling equipment for cleanup. Keep in suitable, closed containers for disposal. Dispose of according to Section 13.

Do not allow to enter into surface water or drains.

Section 7. Handling and Storage

Handling

- Keep out of reach of children.
- Read label before use.
- Wash hands thoroughly after handling.
- Do not breathe dust.
- Avoid dust formation.
- Avoid contact with skin, eyes and clothing.
- Protect from contamination.
- Keep away from direct sunlight.
- Protect against heat.
- Protect from moisture
- Do not eat, drink or smoke when using this product.
- Wear protective clothing.

Storage

- To maintain product quality, do not store in heat or direct sunlight.
- Keep away from sources of ignition - No smoking.
- Keep away from combustible material.
- Protect from contamination or moisture.
- When stored loose do not mix with other fertilizers.
- Protect against humidity (product is hygroscopic and tends to cake or disintegrate)
- Store away from incompatible materials listed in Section 10.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

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

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

Control parameters

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

Substance name	End Use	Exposure routes	Potential health effects	Value
potassium nitrate	Workers	Inhalation	Systemic effects	36,7 mg/m3
	Workers	Skin contact	Systemic effects	20,8 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Ingestion	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Skin contact	Systemic effects	12,5 mg/kg
Remarks:	Exposure time: 1 d			
	Consumers	Inhalation	Systemic effects	10,9 mg/m3
nitric acid, ammonium calcium salt	Workers	Inhalation	Specific effects	24,5 mg/m3
Remarks: Exposure time: 1 DAY				
	Workers	Skin contact	Specific effects	13,9 mg/kg
Remarks: Exposure time: 1 DAY				
	Consumers	Inhalation	systemic effects	6,3 mg/m3
	Consumers	Skin contact	systemic effects	8,33 mg/kg
	Consumers	Ingestion	systemic effects	8.33mg/kg
Remarks: Exposure time: 1 DAY				

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

Substance name	Environmental Compartment	Value
Potassium nitrate	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l
	Sewage treatment plant	18 mg/l
nitric acid, ammonium calcium salt	Fresh water	0,45 mg/l
	Marine water	0,045 mg/l
	Ceiling Limit Value	4,5 mg/l

Engineering Controls
Provide adequate ventilation.

Personal Protective Equipment:

Eyes	Tightly fitting safety goggles.
Hands and Skin	Chemical resistant protective gloves (EN 374) and wear protective clothing.
Respiratory	Breathing apparatus only if aerosol or dust is formed. Particle filter EN 143 Type P2, medium efficiency, (solid and liquid particles of harmful substances).
General	Do not empty into drains. Retain and dispose of contaminated wash water.

Section 9 Physical and Chemical Properties

Appearance	Solid
Colour	Light Grey
Odour	Odourless
Odour Threshold	Not available
pH @ 20^{o}C	ca. 1.7, Concentration: 100 g/l, 20 °C
Boiling Point	Not available
Melting Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	The product is not auto-flammable.
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Density	1.18 kg/m^3
Solubilities	soluble
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available
Particle Characteristics	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Conditions to Avoid	Corrosive to metals Contact with water or moist air liberates phosphoric acid.
Hazardous Reactions	Evolution of ammonia under influence of alkalies.
Incompatible Materials	Sulphur, chlorites, chloride, chlorates, Hypochlorites, acid or alkaline reacting substances, flammable oxidizable substances, nitrites, metallic salts, metallic powder, herbicide, chlorinated hydrocarbons, organic compounds.
Hazardous Decomposition Products	Nitrogen monoxide, nitrogen dioxide, dinitrogen oxide, ammonia, Oxides of phosphorus.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed.

Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes serious eye damage.
Skin	Causes skin irritation.

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:

potassium nitrate:
Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,527 mg/l

Acute dermal toxicity : LD50 (Rat): > 5.000 mg/kg

nitric acid, ammonium calcium salt:
Acute oral toxicity : LD50: > 300 mg/kg

Acute inhalation toxicity : Remarks: Not relevant because of low vapour pressure.

Remarks: Not relevant because of low dust formation.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Guideline 402

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

Repeated dose toxicity

Components:

potassium nitrate:
Species: Rat
NOAEL: >= 1.500 mg/kg
Exposure time: 1 d

Experience with human exposure

Product:

General Information : Danger of methaemoglobin formation.

Section 12. Ecotoxicological Information

Components:

potassium nitrate:

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

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

Toxicity to algae : LC50 : >= 1.700 mg/l
Exposure time: 10 d

nitric acid, ammonium calcium salt:

Toxicity to fish : LC50 (Guppy): 1.378 mg/l
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 490 mg/l

Toxicity to algae : LC50 (other aquatic plant): > 1.700 mg/l

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

Persistence and degradability

Product:

Biodegradability : Remarks: The product works in the soil as fertilizer and is diminished in a few weeks.

Components:

potassium nitrate:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

nitric acid, ammonium calcium salt:

Biodegradability : Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Components:

potassium nitrate:

Bioaccumulation : Remarks: Does not bioaccumulate.

nitric acid, ammonium calcium salt:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Mobility in soil

Product:

Mobility : Remarks: Groundwater contamination is unlikely.

Distribution among environmental compartments : Remarks: No data available

Components:

potassium nitrate:

Mobility : Remarks: No data available

Results of PBT and vPvB assessment

Product:

Assessment : Remarks: Not applicable

Components:

potassium nitrate:

Exposure time: 96 h

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Other adverse effects

Product:

Additional ecological information : There is a high probability that the product is acute not harmful to aquatic organisms.
Additional ecological information
The product has not been tested. The information is derived from the properties of the individual components.
At higher pH values, which can be found in natural surface waters, an increase of toxic effects on aquatic organsims may be expected.

Section 13. Disposal Considerations

Disposal Method:
Place recovered product into an appropriate waste container for disposal through appropriate waste company or specialized landfill in accordance with local regulations. Ensure container is sealed and isolated away from ignition sources.

Precautions:
Ensure waste container containing recovered product or contaminated spill media is labelled "Hazardous Waste – Corrosive". If triple rinsing container, add rinsate to waste container for disposal.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2020

Road and Rail Transport

UN No:	1759
Class-primary	8
Packing Group	III
Proper Shipping Name:	CORROSIVE SOLID, N.O.S

Air Transport

UN No:	1759
Class-primary	8
Packing Group	III
Proper Shipping Name:	CORROSIVE SOLID, N.O.S

Marine Transport

UN No:	1759
Class-primary	8
Packing Group	III
Proper Shipping Name:	CORROSIVE SOLID, N.O.S

If total quantity of product shipment is below 5L, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information. Talk to your logistics or courier company for further information.

Section 15 Regulatory Information

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.

EPA Approval Code: Fertilisers (Corrosive Hazard) – HSR002569

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handler	Not required
Location Certificate	250kg
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	250kg
Emergency Response Plan	1000kg
Secondary Containment	1000kg
Restrictions of Use	None

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

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, TCC (NZ) Ltd accept no liability for any loss, injury or damage

(including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS

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

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