

## SAFETY DATA SHEET

### Section 1. Identification of the material and the supplier

Product: **Optifos Liquid**  
 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: 30 May 2024

### Section 2. Hazards Identification

**This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2020**

**EPA Approval No: Fertilisers (subsidiary) – HSR002571**

Pictograms:



Signal Word: **Warning**

GHS Classification and Category	Hazard Code	Hazard Statement
Skin irritation Cat. 2	H315	Causes skin irritation.
Eye irritation Cat. 2	H319	Causes serious eye irritation.

Prevention Code	Prevention Statement
P103	Read carefully and follow all instructions.
P264	Wash hands thoroughly after handling.
P280	Wear protective clothing as detailed in SDS Section 8.

Response Code	Response Statement
P302 + P352	IF ON SKIN: Wash with plenty of water.
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.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash before reuse.

<b>Storage Code</b>	<b>Storage Statement</b>
None allocated	

<b>Disposal Code</b>	<b>Disposal Statement</b>
P501	Dispose of according to Local Regulations or Authorities

### Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Potassium carbonate	8 - 10	584-08-7
Tetrapotassium pyrophosphate	6 - 8	7320-34-5
Non Hazardous ingredients	To 100	

### 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. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If on Skin	Take off contaminated clothing and wash before reuse. Wash skin with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
If Swallowed	Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do NOT induce vomiting. Do not give an unconscious person anything to drink. Ingestion of large quantities: immediately to hospital.
If Inhaled	Remove person to fresh air and keep comfortable for breathing. Respiratory problems: consult a doctor/medical service.

#### Most important symptoms and effects, both acute and delayed

Symptoms:

Swallowed: Gastrointestinal complaints. Nausea. Vomiting. Diarrhoea.

Inhalation: Not applicable.

Skin: Causes skin irritation. Tingling.

Eyes: Causes serious eye irritation.

### Section 5. Fire Fighting Measures

<b>Hazard Type</b>	Non Flammable, Non-combustible material.
<b>Hazards from decomposition products</b>	Not combustible, however after the water has evaporated: possible risk of release of toxic fumes (phosphorus oxides, potassium oxides, carbon monoxide, carbon dioxide).
<b>Suitable Extinguishing media</b>	Use fire extinguishing methods suitable for the surrounding conditions. Do not use a heavy water stream.
<b>Precautions for firefighters and special protective clothing</b>	Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents. Keep upwind, consider evacuation and have neighbourhood close doors and windows. Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
<b>HAZCHEM CODE</b>	<b>None allocated</b>

### Section 6. Accidental Release Measures

Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment (see Section 8). Ensure adequate air ventilation. Avoid contact with skin and eyes.

Stop leaks if possible. Contain leaking substance, pump over in suitable containers. Prevent spreading in sewers. Prevent soil and water pollution.

Large amounts: transfer the product in suitable packing with correct labels.

Take up rest of liquid spill into absorbent material sand, earth, vermiculite.

Scoop absorbed substance into closing containers. Small quantities of liquid spill: take up in noncombustible absorbent material and shovel into container for disposal. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Dispose as per Section 13.

## Section 7. Handling and Storage

### Precautions for Handling:

- Read carefully and follow all instructions.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective clothing as detailed in SDS Section 8.
- Avoid contact with skin and eyes.
- Provide eyewash stations at the workplace.
- Avoid splashing.
- Do not eat, drink or smoke during use.
- Remove contaminated clothing and protective equipment before entering eating areas.
- Do not discharge waste into the drain.

### Precautions for Storage:

- Keep preferably in the original container.
- Storage Temperature: -10 – 30°C
- KEEP SUBSTANCE AWAY FROM: heat sources.
- KEEP SUBSTANCE AWAY FROM: oxidizing agents, (strong) acids.
- Store in a cool area.
- Provide for a tub to collect spills.
- Do not store in unlabeled containers.
- Keep packaging closed when not in use.
- SUITABLE MATERIAL: polyethylene. stainless steel. Keep preferably in the original container.
- Unsuitable materials: do not store in corrodible metal.

## Section 8 Exposure Controls / Personal Protection

### WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>

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 2023 14TH EDITION.

Potassium carbonate (584-08-7)	
DNEL/DMEL (Workers)	
Long-term - local effects, dermal	16 mg/cm <sup>2</sup>
Long-term - systemic effects, inhalation	10 mg/m <sup>3</sup>
DNEL/DMEL (General population)	
Long-term - local effects, dermal	8 mg/cm <sup>2</sup>

Long-term - local effects, inhalation	10 mg/m <sup>3</sup>
PNEC oral (secondary poisoning)	Not potentially bioaccumulable
PNEC (additional information)	
Additional information	Other PNEC values are not known or derived

## Engineering Controls

Ensure good ventilation of the work station.

## Personal Protection Equipment



<b>Eyes</b>	Safety glasses. Face shield where there is a risk of leaks or splashes.
<b>Hands and Skin</b>	Wear chemical-resistant gloves (tested to EN-16523-1). Good resistance gives: rubber, butyl rubber, Viton. Ask your gloves' supplier for advice. Replace damaged gloves
<b>Respiratory</b>	If this product is handled normally, there is no demand of any respiratory protection. Mist formation: aerosol mask with filter type P2.

## Section 9 Physical and Chemical Properties

<b>Appearance</b>	Liquid
<b>Colour</b>	Colourless
<b>Odour</b>	Characteristic
<b>Odour Threshold</b>	Not available
<b>pH</b>	11 - 12
<b>Boiling Point</b>	Not available
<b>Melting Point</b>	Not available
<b>Crystallization Point</b>	< -15 °C
<b>Freezing Point</b>	Not available
<b>Flash Point</b>	Not available
<b>Flammability</b>	Not flammable
<b>Upper and Lower Explosive Limits</b>	Not available
<b>Vapour Pressure</b>	23 hPa (as water)
<b>Vapour Density</b>	Not available
<b>Density</b>	1,48 kg/l (25°C)
<b>Solubilities</b>	Completely soluble in water
<b>Partition Coefficient:</b>	Not available
<b>Auto-ignition Temperature</b>	Not available
<b>Decomposition Temperature</b>	Not available
<b>Dynamic Viscosity</b>	Not available
<b>Other properties</b>	Substance has basic reaction.

## Section 10. Stability and Reactivity

<b>Stability of Substance</b>	This product is stable under normal conditions of storage and use.
<b>Hazardous Reactions</b>	May react violently with acids.
<b>Conditions to Avoid</b>	Avoid high temperatures. Temperatures lower than -10°C.
<b>Incompatible Materials</b>	Reactive or incompatible with the following materials: strong acids, reducing agents, combustible materials. Corrosive to brass, bronze, copper and aluminium.
<b>Hazardous Decomposition Products</b>	Not combustible, however after the water has evaporated: possible risk of release of toxic fumes (phosphorus oxides, potassium oxides, carbon monoxide, carbon dioxide).

**Acute Effects:**

<b>Swallowed</b>	Not applicable.
<b>Dermal</b>	Not applicable.
<b>Inhalation</b>	Not applicable.
<b>Eye</b>	Causes serious eye irritation.
<b>Skin</b>	Causes skin irritation.

**Chronic Effects:**

<b>Carcinogenicity</b>	Not applicable.
<b>Reproductive Toxicity</b>	Not applicable.
<b>Germ Cell Mutagenicity</b>	Not applicable.
<b>Aspiration</b>	Not applicable.
<b>STOT/SE</b>	Not applicable.
<b>STOT/RE</b>	Not applicable.

**Acute toxicity**

<b>Product/ingredient name</b>	<b>Result</b>	<b>Species</b>	<b>Dose</b>
<b>Potassium carbonate (584-08-7)</b>	LD50 Oral	Rat	>2000 mg/kg
	LD50 Dermal	Rabbit	> 2000 mg/kg
	LC50 Inhalation	Rat	>4.96 mg/l/4h
<b>Tetrapotassium pyrophosphate (7320-34-5)</b>	LD50 Oral	Rat	>2000 mg/kg
	LD50 Dermal	Rabbit	> 2000 mg/kg
	LC50 Inhalation	Rat	>1.1 mg/l/4h (dust/mist)

**Section 12. Ecotoxicological Information****Toxicity:**

Ecology - general	The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Ecology - air	Not dangerous for the ozone layer (Council Regulation (EC) no 1005/2009). TA-Luft Klasse 5.2.1.
Ecology - water	Mild water pollutant (surface water). Practically non-toxic to fishes (LC50 >100 mg/l). May cause eutrophication. pH shift.

**Potassium carbonate (584-08-7)**

LC50 fishes 1	68 - 230 mg/l (Oncorhynchus mykiss / Lepomis macrochirus; method equivalent to FIFRA Guidance 72-1)
EC50 Daphnia 1	200 - 430 mg/l (Daphnia pulex / Daphnia magna; method equivalent to FIFRA Guidance 72-1)

**Tetrapotassium pyrophosphate (7320-34-5)**

LC50 fish 1	100 mg/l (Read-across tripotassium trihydrogen diphosphate dihydrate, CAS 66922-99-4)
EC50 Daphnia 1	100 mg/l

<b>Persistence and degradability</b>	Not applicable.
<b>Bioaccumulation</b>	Not applicable.
<b>Mobility in Soil</b>	Soluble in water.
<b>Other adverse effects</b>	No data available.

### Section 13. Disposal Considerations

#### Disposal Method:

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Empty the bag by shaking to remove as much as possible of its contents. Empty bags may be disposed of as non-hazardous material or returned for recycling.



**Precautions or 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

EPA Approval Code: Fertilisers (subsidiary) – HSR002571

<b>HSWA &amp; EPA Controls</b>	<b>Trigger Quantity</b>
Certified Handler	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	Not required
Emergency Response Plan	Not required
Secondary Containment	Not required
Restriction of Use	None

### Section 16 Other Information

#### Glossary

EC <sub>50</sub>	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD <sub>50</sub>	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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