

SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: Potassium Hydroxide 50% Liquid
 Product No:
 Product Use: Component of mixed Fertilisers
 Restrictions 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: 13 July 2023

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 No: Additives, Process Chemicals and Raw Materials (Corrosive) – HSR002491

Pictograms



Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Acute oral toxicity Cat. 4	H302	Harmful if swallowed.
Corrosive to metals Cat. 1	H290	May be corrosive to metals.
Skin corrosion Cat. 1B	H314	Causes severe skin burns and eye damage.

Prevention Code Prevention Statement

P102	Keep out of reach of children.
P103	Read carefully and follow all instructions.
P234	Keep only in original packaging.
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 as detailed in Section 8.
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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.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
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.
P303 + P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.

Storage Code	Storage Statement
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.

Disposal Code	Disposal Statement
P501	Triple rinse container. Cleaned packaging maybe offered for recycling or landfill in accordance with local regulations. Dispose of unwanted product as a hazardous material according to Local Regulations.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Potassium hydroxide	50%	1310-58-3

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Cover eyes aseptically. Do not apply neutralizing agents. Take victim to an ophthalmologist.
If on Skin	Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. Chemical burns must be treated promptly by a physician.
If Swallowed	Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Do not give chemical antidote. Immediately consult a doctor/medical service. Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital.
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

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www.techcomp.co.nz Tel: 64 9 475 5240

Symptoms:
 Swallowed: Harmful if swallowed. Abdominal pain, blood in vomit, difficulty in swallowing, possible esophageal perforation, burns to the gastric/intestinal mucosa. AFTER INGESTION OF HIGH QUANTITIES: Change in the haemogramme/blood composition, disturbances of heart rate, low arterial pressure, blood in stool, bleeding of the gastrointestinal tract, shock.

Inhalation: EXPOSURE TO HIGH CONCENTRATIONS: dry/sore throat, corrosion of the upper respiratory tract, respiratory difficulties, possible laryngeal spasm/oedema, risk of pneumonia. The following symptoms may appear later: Risk of lung oedema.

Eyes: Corrosion of the eye tissue, permanent eye damage, blindness.

Skin: Caustic burns/corrosion of the skin. Slow-healing wounds.

Chronic: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: dry skin, skin rash/inflammation.

Notes to doctor: Treat symptomatically.

Section 5. Fire Fighting Measures

Hazard Type	Non Flammable
Hazards from combustion products	On heating: release of corrosive gases/vapours. Reacts exothermically with water (moisture).
Suitable Extinguishing media	Extinguishing media for surrounding fires.
Precautions for firefighters and special protective clothing	Clothing for fire-fighters (including helmets, protective boots and gloves). Cool tanks/drums with water spray/remove them into safety. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it. Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Exposure to heat/fire keep upwind. Consider evacuation and have neighbourhood close doors and windows.
HAZCHEM CODE	2R

Section 6. Accidental Release Measures

Wear PPE as detailed in Section 8. Ensure adequate air ventilation. Do not get in eyes, on skin, or on clothing.

Mark the danger area. No naked flames. Corrosion-proof appliances. Wash contaminated clothes. Large spills/in confined spaces: consider evacuation. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation.

Prevent soil and water pollution. Prevent spreading in sewers.

For containment: Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapour with water curtain. Take account of toxic/corrosive precipitation water. Heat exposure: dilute toxic gas/vapour with water spray.

Clean up Methods:

Take up liquid spill into inert absorbent material, e.g.: powdered limestone or dry sand/earth. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Take collected spill to manufacturer/competent authority. Neutralize small quantities of the liquid spill with sodium bisulfite. Wash away neutralized product with plentiful water. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.

Section 7. Handling and Storage

Handling

- Read carefully and follow all instructions.
- Keep only in original packaging.
- Do not breathe dust, fumes, gas, mist, vapours or spray.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear protective clothing as detailed in Section 8.
- Perform operations in the open air/under local exhaust or at sufficient ventilation to keep airborne levels below recommended/statutory exposure levels.
- Avoid splashing. Observe very strict hygiene - avoid contact.
- To dilute the substance must be poured in water.
- Remove contaminated clothing immediately.
- Use corrosion proof equipment.
- Keep container tightly closed.
- Safety showers and eye wash fountains should be readily available in handling and storage areas.
- Do not eat, drink or smoke during use. If on skin, take off contaminated clothing.
- Provide eyewash stations at the workplace.
- Do not discharge waste into the drain.

Storage

- Store away from oxidizing agents, (strong) acids, highly flammable materials, metals, halogens, organic materials.
- Keep out of reach of children.
- Store locked up.
- Store in corrosive resistant container with a resistant inner liner.
- Storage temp: 10°C - 45°C
- Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight.
- Keep preferably in the original container.
- Do not use with copper/Aluminium/zinc - risk of corrosion. Avoid contact with Aluminium.
- Keep away from heat sources and protect against frost.
- Provide a tub to collect spills.
- May be stored under inert gas.
- Suitable packaging materials: stainless steel, glass, synthetic material, polyethylene
Material to avoid: lead, aluminium, copper, tin, zinc, bronze.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance		TWA		STEL	
		ppm	mg/m ³	ppm	mg/m ³
Potassium hydroxide	[1310-58-3]	Ceiling	2		

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 hydroxide 50% (1310-58-3)

DNEL/DMEL (Workers)

Long-term - local effects, inhalation 1 mg/m³

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DNEL/DMEL (General population)Long-term - local effects, inhalation 1 mg/m³**Engineering Controls**

Keep container tightly closed. Ensure good ventilation of the work station. If user operations generate dust/fog, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Avoid splashing. Provide eyewash stations at the workplace.

Personal Protective Equipment

Eyes	Safety glasses. Face shield where there is a risk of leaks or splashes.
Hands	Wear protective gloves as follows: butyl rubber (IIR) / 0,5 mm Polyvinylchloride (PVC) / 0.5 mm Nitrile rubber (NBR) /0.35 - 0.4 mm Break through time > 480 min. Replace damaged gloves.
Skin	Excellent resistance: Butyl rubber. Natural rubber. Neoprene. Polyvinylchloride (PVC). Viton. Less resistance: Polyethylene. Polyurethane. Styrene-butadiene rubber. neoprene/SBR. Poor resistance: leather. natural fibres. Polyvinylalcohol (PVA)
Respiratory	In case of dust or aerosol formation (e.g. spraying): use respiratory protection with approved filter (P2). Wear gas mask with filter type B if conc. in air > exposure limit

Section 9 Physical and Chemical Properties

Appearance	Liquid
Colour	Colourless
Odour	Odourless
Odour Threshold	Not available
pH	14 (5%)
pH solution	5%
Boiling Point	145°C
Melting/Freezing Point	10°C
Crystallisation temp	6°C
Flash Point	Not available
Flammability	Not flammable
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Density	1.50 (1.49 – 1.51) kg/l (25°C)
Solubilities	Soluble in water. Water 121 g/100ml (25 °C)
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Dynamic Viscosity	0.009 Pa·s (20 °C)
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions. Hygroscopic. Absorbs the atmospheric CO ₂ .
Conditions to Avoid	Keep container tightly closed. Avoid splashing.
Hazardous Reactions	Reacts exothermically with water (moisture). Violent to explosive reaction with many compounds e.g.: with organic material, with (some) halogens and with (some) acids: heat release resulting in increased fire or explosion risk.
Incompatible Materials	May be corrosive to some metals. Keep substance away from: oxidizing agents. acids. highly flammable materials. metals. halogens. Organic materials.
Hazardous Decomposition Products	On heating: release of corrosive gases/vapours. Reacts with (some) metals and their compounds: release of highly flammable gases/vapours (hydrogen).

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed. LD50 = 333mg/kg (rat)
Dermal	Not applicable.
Inhalation	Not applicable.
Eye	Causes eye damage
Skin	Causes skin burns.

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.

Section 12. Ecotoxicological Information

Not classified as dangerous to the environment.

Product:	
Persistence and degradability	Biodegradability: not applicable. Low potential for adsorption in soil
Bioaccumulation	Does not contain Bioaccumulative component(s)
Mobility in Soil	No data available
Other adverse effects	No data available

Section 13. Disposal Considerations

Disposal Method:

Spent media that has removed toxic chemicals should be examined for specific hazards. Spilled product may be recovered for use if it has not come in contact with liquids or been exposed to significant amounts of gaseous contaminants. Dispose of according to Local Regulations.

Ensure any container holding waste product or contaminated spill media is labelled "Hazardous Waste – "Corrosive" and that the label also has the Corrosive Pictogram, waste type identifier, and the business name, address, and phone number.

Precautions or methods to avoid: None known.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2020 and SNZ HB 5433:2021



Road, Rail, Sea and Air Transport

UN No	1814
Class - Primary	8
Packing Group	II
Proper Shipping Name	POTASSIUM HYDROXIDE SOLUTION
Marine Pollutant	No
Special Provisions	If the product's individual container is below 1L, 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 in accordance with Chapter 3.4 of the UNRTDG.

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.

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Trigger quantities:

HSWA & EPA Controls	Trigger Quantity
Certified Handler	Not required
Location Certificate	250L
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	250L
Emergency Response Plan	1000L
Secondary Containment	1000L
Restriction 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

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

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