

SAFETY DATA SHEET

According to HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product: **CLEO Herbicide**
 Product Use: Herbicide
 Restriction of Use: Refer to Section 15

New Zealand Supplier: **Agrisource 2000 Ltd**
 Address: 45 Kitchener Road
 Pukekohe, Auckland

Telephone: +64 9 237 0422
Emergency No: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 20 May 2022

Section 2. Hazards Identification

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

EPA Approval No: HSR007818

Pictograms



Signal Word: **DANGER**

GHS Classification and Category	Hazard Code	Hazard Statement
Flammable Liquids Cat. 4	H227	Combustible liquid.
Aspiration hazard Cat. 1	H304	May be fatal if swallowed and enters airways.
Skin irritation Cat. 2	H315	Causes skin irritation.
Eye irritation Cat. 2	H319	Causes serious eye irritation.
Specific target organ toxicity – repeated exposure Cat. 2	H373	May cause damage to organs through prolonged or repeated exposure.
Hazardous to the aquatic environment chronic Cat. 2	H411	Toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H421	Hazardous to soil organisms

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P103	Read label before use.
P210	Keep away from heat, sparks, open flames or hot surfaces. No smoking.
P260	Do not breathe dust, fumes, gas, mist, vapours or spray.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P314	Get medical advice/attention if you feel unwell.
P331	Do NOT induce vomiting.
P338	Remove contact lenses, if present and easy to do. Continue rinsing.
P362	Take off contaminated clothing and wash before re-use.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and 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.
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, foam, water and mist for extinction.

Storage Code	Storage Statement
P405	Store locked up.
P403 + P235	Store in a well-ventilated place. Keep cool.

Disposal Code	Disposal Statement
P501	Dispose of according to Local Regulations or Authorities

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	Wt%	CAS NUMBER.
Clethodim	24%	99129-21-2
Liquid Hydrocarbon	60-70	64742-95-5

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. If eye irritation persists: Get medical advice/attention.
If on Skin	In case of skin contact, immediately flush skin with plenty of water and soap. Remove contaminated clothing. Cold water may be used. Wash clothing before reuse. If skin irritation occurs: Get medical advice/ attention.
If Swallowed	Rinse mouth. DO NOT induce vomiting unless directed to do so by a medical personnel. Never give anything to the mouth of an unconscious person. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs. Immediately call a POISON CENTER or doctor/physician.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms: May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause damage to organs through prolonged or repeated exposure.

Advice to Physician: No specific antidote is known. Treat symptomatically. Main hazard is solvent entering lungs – may lead to chemical pneumonitis.

Section 5. Fire Fighting Measures

Hazard Type	Combustible Liquid
Hazards from products	Combustion may release carbon dioxide, nitrogen oxides, and or chlorine compounds.
Suitable Extinguishing media	Dry chemical, carbon dioxide, foam, water mist. Do not use high power water jet.
Precautions for firefighters and special protective clothing	Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke or gases. All run-off must be contained.
HAZCHEM CODE	3Z

Section 6. Accidental Release Measures

Wear chemical safety glasses with side shields or chemical goggles, rubber gloves, rubber boots, long-sleeved shirt, long pants, head covering, and an approved pesticide respirator or air-supplied respirator. Evacuate all unnecessary personnel.

Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

Extinguish any sources of ignition. Spills may be slippery and should be cleaned up immediately.

Large spill: Dike and pump as much as possible to a salvage container. Absorb the remaining liquid and any small spills with clay granules, sand or other absorbent material and sweep to a waste container. Cover the spill area with water and absorb. Minimise runoff into waterways or drains.requirements of Local Authorities.

Section 7. Handling and Storage

Precautions for Handling:

- Read label before use.
- Keep away from heat, sparks, open flames or hot surfaces. No smoking.
- Do not breathe fumes, mist, vapours or spray.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- When mixing or applying, avoid inhalation of vapors or spray mist and contact with skin and eyes.
- Do not eat or drink while using.
- Wash hands and face before meals and after work.
- Wash protective clothing after work.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Store in original container tightly closed and in a locked, dry, cool, well ventilated area, away from feed, seeds and foodstuffs.
- Keep out of reach of children.
- Store in accordance with the New Zealand Standard for the Management of Agrichemicals (NZS8409).

Section 8. Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm mg/m³	STEL ppm mg/m³
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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.

Engineering Controls

Ensure ventilation is adequate, generally natural ventilation is adequate.

Personal Protection Equipment



Eyes	Wear chemical goggles or face shield.
Hands	Elbow-length and PVC gloves.
Skin	When opening the container, preparing spray and using prepared spray wear cotton overalls buttoned to the neck and wrist and a washable hat, elbow-length PVC gloves and goggles.
Respiratory	Where insufficient ventilation, use suitable respiratory protection.
General	Avoid inhaling aerosols and vapours. Avoid contact with eyes and skin. Store work clothes and street clothes separately. Wash hand before breaks and at the end of work. Change contaminated protective clothing. Keep away from food, drinks and tobacco.

Section 9. Physical and Chemical Properties

Appearance	Liquid
Colour	Amber
Odour	Aromatic odour
Odour Threshold	Not available
pH	4.6(in water)
Boiling Point	>100°C
Melting Point	Not available
Freezing Point	<0°C
Flash Point	61°C
Flammability	Combustible
Upper and Lower Explosive Limits	Not available
Vapour Pressure	1x10 ⁻² mPa (clethodim)
Vapour Density	Not available
Specific Gravity/Density	Approx. 1.1 (refer to specific batch COA)
Solubility	Fully emulsifiable
Partition Coefficient:	Not available
Auto-ignition Temperature	Not available
Decomposition Temperature	Not available
Kinematic Viscosity	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	No data available.
Conditions to Avoid	Extreme heat. Direct sunlight, Sources of ignition.
Incompatible Materials	Strong oxidising agents – chlorates, nitrates, peroxides.
Hazardous Decomposition Products	Emits toxic fumes under fire conditions.

Section 11. Toxicological Information**Acute Effects:**

Swallowed	Not applicable. LD50 >1630mg/kg (rat)
Dermal	Not applicable. LD50 >5000mg/kg (rabbit)
Inhalation	Not applicable. LC50 >3.9 mg/kg/4hr (rat)
Eye	Causes serious eye irritation.
Skin	Causes skin irritation.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	Not applicable.
Aspiration	May be fatal if swallowed and enters airways.
STOT/SE	Not applicable.
STOT/RE	May cause damage to organs through prolonged or repeated exposure.

Section 12. Ecotoxicological Information

Toxic to aquatic life with long lasting effects.
Hazardous to soil organisms.

Product:	
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	Does not persist in the soil. Half life varies with soil type and moisture status but is generally a matter of weeks rather than months.
Other adverse effects	No data available

Fish toxicity:	LC ₅₀ (96 hr): 67mg/l (rainbow trout). LC ₅₀ (96 hr): 120mg/l (bluegill sunfish).
Daphnia toxicity:	EC ₅₀ (48hr): 120mg/l (daphnia magna).
Algae toxicity:	EC ₅₀ (72hr): 57mg/l (fresh water algae)
Bird toxicity:	LD ₅₀ >2000/kg bobwhite quail.
Bee toxicity:	LD ₅₀ to bee > 100ug/bee. Acute contact.
Earthworm toxicity:	Acute LC ₅₀ 454mg/kg

Do not allow to enter waterways.

Section 13. Disposal Considerations**Disposal Method:**

Ideally, the product should be used for its intended purpose.
Triple rinse container and add rinsate to spray tank. Dispose of cleaned container at your local AGRECOVERY container collection site.



Precautions or methods to avoid: Avoid release to the environment.

Section 14. Transport Information

This product is classified as a Dangerous Good for transport in NZ ; NZS 5433:2012

**Road, Rail, Sea and Air Transport**

UN No	3082
Class - Primary	9
Packing Group	III
Proper Shipping Name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S (contains clethodim)
Marine Pollutant	Yes
Special Provisions	If the product's individual container is below 5L/kg, 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

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

EPA Approval No: HSR007818

HSW (HS) Regulations 2017	Trigger Quantity
Signage Trigger Quantities (Schedule 3)	1000L
Emergency Response Plan (Schedule 5)	1000L
Secondary Containment (Schedule 5)	1000L
Tracking (Schedule 26)	Not required
Certified Handlers	Not required
HSNO Additional Controls (Restrictions of use)	
	For intended use only
ACVM Act and Regulations	
See www.foodsafety.govt.nz for registration Conditions	P8009

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 April 2022 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

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Please contact the Agrisource 2000 Ltd, if further information is required.

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