

MATERIAL SAFETY DATA SHEET



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Emergency Contact:
1800 033 111

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: Clodin 240 EC Selective Herbicide

Full Product Name: Clodin 240 EC Selective Herbicide.
Other Names: Clodinafop-Propargyl + Cloquintocet-Mexly. Group "A" Herbicide.
Use: A herbicide for the control of certain grass weeds in wheat.
Company: eChem (Australia) Pty Ltd.
Address: Level 4, Lantos Place 80 Stamford Road, Indooroopilly QLD 4068
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SECTION 2 HAZARDS IDENTIFICATION

**Classified as hazardous according to criteria of Safe Work Australia.
Not classified as a Dangerous Good according to the ADG Code.
Combustible Liquid (C1).**

Risk phrases: R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R65 Harmful: may cause lung damage if swallowed.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink and other animal foodstuffs.
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	CAS NUMBER	PROPORTION
Clodinafop-Propargyl	105512-06-9	240 g/L
Cloquintocet-Mexly	99607-70-2	60 g/L
N-Methyl pyrrolidone	872-50-4	100 g/L
Liquid hydrocarbon	64742-94-5	575 g/L
Other ingredients (including water) determined not to be hazardous		to 100%

Trace quantities of impurities are possible.

SECTION 4 FIRST AID MEASURES

FIRST AID

Ingestion: If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 13 1126. If swallowed do NOT induce vomiting. Give water to drink.

SECTION 4 FIRST AID MEASURES (Continued)

- Eye contact:** If in eyes, immediately flush with copious amounts of water until chemical is removed. If irritation occurs and persists, obtain medical attention.
- Skin contact:** Remove contaminated clothing and launder before re-use. Wash skin with soap and water. If skin irritation persists, seek medical advice.
- Inhalation:** Remove to fresh air and observe until recovered.

Advice to Doctor: No specific antidote exists. Treat symptomatically. However, the formulation contains hydrocarbon liquid that if aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary oedema; therefore, vomiting is not recommended, and lavage requires intubation. Treatment is otherwise symptomatic and supportive.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Clodin 240EC Selective Herbicide is flammable and classified as a Combustible Liquid (C1).

Extinguishing media: Extinguish fire using carbon dioxide, foam or dry agent. Use water spray if there is no alternative. Contain all runoff. Prevent run off from entering drains or waterbodies.

Hazards from combustion products: Will produce toxic and noxious vapours (eg. oxides of carbon and/or nitrogen and hydrogen cyanide gas and oxides of sulphur can also be produced). Eruption of containers is likely if confined at high temperatures. Intact containers exposed to excessive heat should be cooled with water to reduce drum pressure.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke or vapours generated.

SECTION 6 ACCIDENTIAL RELEASE MEASURES

Emergence procedures / Material and methods for containment and cleanup procedures: Wear As a minimum, wear overalls, elbow-length butyl rubber gloves and face shield or goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, the use of a respirator is recommended.

In the case of spillage, contain and absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as indicated in section 13 or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Keep out animals and unprotected persons.

After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Thoroughly launder protective clothing before storage or re-use.

SECTION 7 HANDLING AND STORAGE

Precautions for safe Handling: No smoking, eating or drinking should be allowed where material is used or stored. Harmful if swallowed. Will irritate the eyes and skin. Repeated exposure may cause allergic disorders. Avoid inhaling spray mist. Avoid contact with eyes and skin. When opening the container, preparing spray wear and using the product wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length butyl rubber gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

Conditions for safe Storage: Not classified as a Dangerous Good. This product is a Schedule 6 Poison (S6) and must be stored, transported and sold in accordance with the relevant Health Department regulations. Store in the closed, original container in a well ventilated area away from children, animals, food, feedstuffs, seed and fertilisers. Do not store for prolonged periods in direct sunlight. Do not re-use container for any purpose. Clodin 240EC Selective Herbicide is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION**Exposure Guidelines:**

Exposure guidelines have not been established for this product by Safe Work Australia. However the following standard applies for one of the ingredients of this product:

Atmospheric Contaminant	Exposure Standard (TWA)	STEL (mg/m ³)
N-Methyl-2-pyrrolidone	103 mg/kg (25 ppm)	309 mg/kg (75 ppm)

TWA = Time-weight Average. STEL = Short Term Exposure Limit.

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in ventilated areas - generally natural ventilation is sufficient. Keep containers closed when not in use. No special engineering controls are required.

Personal Protective equipment (PPE):

General: When opening the container, preparing spray wear and using the product wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length butyl rubber gloves and face shield or goggles. If product on skin, immediately wash area with soap and water. If product in eyes, wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

Hygiene measures: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Dark yellow, water thin liquid.
Odour:	Characteristic odour.
Boiling point:	Not known.
Freezing point:	Not known.
Specific Gravity:	1.06 ± 0.08.
Solubility in Water:	Emulsifies in water.
pH:	6 - 8
Flammability:	Flammable.
Corrosive hazard:	Not corrosive.
Flashpoint (°C):	> 62°C.
Flammability Limits (%):	Not known.
Poisons Schedule:	This product is a Schedule 6 (S6) poison.

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: Do not store near naked flame, heat sources or leave in direct sunlight for long periods.

Incompatible materials: Avoid strong oxidizing agent such as chlorates, nitrates, peroxides etc.

Hazardous decomposition products: Oxides of carbon and nitrogen are released when burned. It is possible that hydrogen cyanide gas and oxides of sulphur to also be produced. Hydrogen cyanide is very poisonous.

Hazardous reactions: Hazardous polymerisation will not occur.

SECTION 11 | TOXICOLOGICAL INFORMATION

No specific data is available for this product as no toxicity tests have been conducted on this product. Information presented is our best judgement based on similar products and/or individual components. As with all products for which limited data is available, caution must be exercised through the use of protective equipment and handling procedures to minimise exposure. Irritating to the eyes and skin.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)**Potential Health Effects:****ACUTE EFFECTS**

- Swallowed:** The estimated Acute Oral LD₅₀ (rat) > 5000 mg/kg.
- Eye:** This product may be a moderate irritant to the eyes.
- Skin:** This product may be a moderate irritant to the skin. The estimated LD₅₀ > 4000 mg/kg. May be sensitising to the skin. Prolonged contact with the concentrate can cause defatting of the skin and may result in dermatitis.
- Inhaled:** Inhalation of mists or sprays may produce respiratory irritation. The estimated LC₅₀ is > 3.5 mg/L/4 hours.

Long Term Exposure:

Clodinafop-propargyl technical has been extensively tested on laboratory mammals and in test-tube systems. No evidence of mutagenic, teratogenic or reproductive effects was obtained. **Clodinafop-propargyl technical** induced liver toxicity and benign and malignant liver tumours in mice fed high daily doses over their lifetime. Rats fed high doses showed mild liver toxicity but did not develop tumours while no liver effects were observed for dogs fed high doses. The liver tumour finding occurring at high doses is believed due to **clodinafop-propargyl** inducing proliferative effects genetically pre-existing in mice and has no relevance to humans because the cellular changes which underlie it are rodent-specific and have been shown experimentally not to occur in primates.

Cloquintocet-mexyl technical has been extensively tested and no evidence of mutagenic, carcinogenic, teratogenic, or reproductive effects was obtained.

The **aromatic hydrocarbon mixture** may cause central nervous system depression and narcosis.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No information is available for the product. The following information refers to the active ingredients. Clodinafop-propargyl technical is practically non-toxic to birds, crustaceans, earthworms, soil microorganisms and bees, and highly toxic to fish with LC₅₀ (96 h) = 0.4 mg/L for rainbow trout. The formulated product is moderately toxic to fish and aquatic invertebrates LC₅₀ (96 h) 4.9 mg/L for trout. DO NOT contaminate streams, rivers or water courses. Cloquintocet-mexyl technical is practically non-toxic to birds, fish, crustaceans, earthworms, soil microorganisms and bees.

Environmental Fate: Average half life of Clodinafop-propargyl in the field is 0.8 days. Average half life of Cloquintocet-mexyl in the field is 5 days.

SECTION 13 DISPOSAL CONSIDERATIONS**Spills and Disposal:****1) After intended use (disposal of empty containers):**

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. DO NOT dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. Empty containers and product should not be burnt. For help with disposal of empty containers contact DrumMuster <http://www.drummuster.com.au> for details for your area. DO NOT cut, weld, drill or heat empty containers as residual vapours may explode.

2) After spill or accident

Clear area of all unprotected personnel. Wear protective clothing and equipment including chemical resistant gloves. Prevent spill from spreading or entering waterways, sewers or underground drains. Absorb spill with absorbent material such as sand clay or cat litter. Place material into an approved drum. To decontaminate spill area, tools and equipment wash with a suitable solution (e.g. organic solvent, detergent, bleach or caustic) and add the solution to the drums of waste already collected. Dispose of drummed waste and decontamination solution in accordance with the requirements of Local Authorities or State Waste Management Authorities. In rural areas contact ChemClear <http://www.chemclear.com.au> for help with collection of unwanted rural chemicals.

SECTION 14 TRANSPORT INFORMATION

Road and Rail Transport: Clodin 240EC Selective Herbicide is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail in containers less than 3000 litres. Bulk shipments should use UN 3082, as per below.

Marine and Air Transport: Clodin 240EC Selective Herbicide is a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:- UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 24% Clodinafop-Propargyl). Not to be loaded with explosives (Class1), oxidising agents (Class 5.1), organic peroxidies (Class 5.2), however exemptions may apply.

SECTION 15 REGULATORY INFORMATION

Under the Standard for Uniform Scheduling of Drugs and Poisons (SUSDP), this product is a schedule 6 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 64600.

This product is classified as a Hazardous Substance under the criteria of Safe Work Australia.

eChem Clodin 240EC Selective is not classified as Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail, however it is classified as a Dangerous Good for Marine and Air transport.

SECTION 16 OTHER INFORMATION

Issue Date: 29 April 2013. Valid for 5 years. (Revised to update address).

Key to abbreviations and acronyms used in this MSDS:

ADG Code: Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).

Carcinogen: An agent which is responsible for the formation of a cancer.

Genotoxic: Capable of causing damage to genetic material, such as DNA.

Hypotonia: A condition of abnormally low muscle tone.

Mutagenic: Able to produce a mutation (a change in the genetic material of cells).

Neurotoxicity: An adverse change in the structure or function of the nervous system.

Oedema: Accumulation of fluid in tissues.

PPE: Personal protective equipment.

Teratogen: An agent capable of causing abnormalities in a developing foetus, that is causing birth defects.

STEL: Short Term Exposure Limits

TWA: The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

Safe Work Australia: Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

1. "Search Hazardous Substances". Safe Work Australia HSIS website. (2013).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. End MSDS