

## Rygel Clodinafop 240 EC Herbicide

### 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

**Supplier:** Rygel Australia Pty Ltd  
**ACN:** 106 839 007  
**Street Address:** 103 Ordish Road, Dandenong South, Vic 3175  
**Telephone:** (03) 9768 2803  
**Facsimile:** (03) 9768 2804  
**Emergency telephone number:** National Poisons Information Centre: Phone Australia 13 11 26.

**Product name:** Rygel Clodinafop 240 EC Herbicide  
**Substance:** Clodinafop-propargyl is a 2-(4-aryloxyphenoxy)propionic acid derivative.  
**Product Use:** A herbicide for the control of Wild Oats, Paradoxa Grass (Annual Phalaris), Canary Grass and Annual Ryegrass in Wheat..

### 2. HAZARDS IDENTIFICATION

#### Statement of Hazardous Nature

This product is classified as: Xi, Irritating. Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of ASCC.

Not subject to the ADG Code when transported by Road and Rail. (ADG 7, Special Provision AU01). However, this is a C1 Combustible Liquid and for storage meets the definition of Dangerous Goods.

#### Risk Phrases:

R43, R65, R36/37/38, R51/53. May cause sensitisation by skin contact. Harmful: May cause lung damage if swallowed. Irritating to eyes, respiratory system and skin. Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment.

#### Safety Phrases:

S2, S13, S23, S26, S28, S35, S38, S46, S20/21, S24/25, S36/37/39. Keep out of reach of children. Keep away from food, drink and animal feeding stuffs. Do not breathe vapours or spray mists. In case of contact with eyes, rinse immediately with plenty of water and contact a doctor or Poisons Information Centre. After contact with skin, wash immediately with plenty of soap and water. This material and its container must be disposed of in a safe way. In case of insufficient ventilation, wear suitable respiratory equipment. If swallowed, contact a doctor or Poisons Information Centre immediately and show this MSDS or label. When using, do not eat, drink or smoke. Avoid contact with skin and eyes. Wear suitable protective clothing, gloves and eye/face protection.

**SUSDP Classification:** S5

**IMDG Classification:** Class 9 (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.)

**UN Number:** 3082

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	CAS No	Conc	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Clodinafop-propargyl	105512-06-9	240g/L	not set	not set
Cloquintocet-mexyl	99607-70-2	60g/L	not set	not set
Aromatic hydrocarbons	64742-94-5	535g/L	not set	not set
Other non-hazardous ingredients	secret	to 100%	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non-hazardous ingredients are also possible.

### 4. FIRST AID MEASURES

#### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 11 26 from anywhere in Australia (0800 764 766 in New Zealand) and is available at all times. Have this MSDS with you when you call.

**Inhalation:** If irritation occurs, contact a Poisons Information Centre, or call a doctor. Remove

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source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. In severe cases, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

**Skin Contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watchbands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.

**Eye Contact:** Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

## 5. FIRE-FIGHTING MEASURES

**Fire and Explosion Hazards:** This product is classified as a C1 combustible product. There is a slight risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances. Fire decomposition products from this product are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** >95°C

**Upper Flammability Limit:** 11.8%

**Lower Flammability Limit:** 1.8%

**Autoignition temperature:** >420°C

**Flammability Class:** C1

## 6. ACCIDENTAL RELEASE MEASURES

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC, Viton. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. It should be fitted with a type G cartridge, suitable for agricultural chemicals.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this MSDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

## 7. HANDLING AND STORAGE

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work

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areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed.

The measures detailed below under 'Storage' should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** Note that this product is combustible and therefore, for Storage, meets the definition of Dangerous Goods in some states. If you store large quantities (tonnes) of such products, we suggest that you consult your state's Dangerous Goods authority in order to clarify your obligations regarding their storage.

Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under 'Incompatibilities' in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Industrial Clothing: **AS2919**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

### ASCC Exposure limits TWA (mg/m<sup>3</sup>) STEL (mg/m<sup>3</sup>)

Exposure limits have not been established by ASCC for any of the significant ingredients in this product.

The ADI for Clodinafop-propargyl is set at 0.004mg/kg/day. The corresponding NOEL is set at 0.37mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, Dec 2005.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

**Ventilation:** No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised.

**Eye Protection:** Protective glasses or goggles should be worn when this product is being used. Failure to protect your eyes may cause them harm. Emergency eye wash facilities are also recommended in an area close to where this product is being used.

**Skin Protection:** If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: rubber, PVC, Viton.

**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

**Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)**

Eyebaths or eyewash stations and safety deluge showers should be provided near to where this product is being used.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical Description &amp; colour:</b>	Light brown to brown liquid
<b>Odour:</b>	Aromatic hydrocarbon odour
<b>Boiling Point:</b>	220-230°C at 100kPa
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C
<b>Vapour Pressure:</b>	3.19x10 <sup>-3</sup> mPa at 20°C
<b>Vapour Density:</b>	No data
<b>Specific Gravity:</b>	1.08-1.11 at 20°C
<b>Water Solubility:</b>	Emulsifiable
<b>pH:</b>	3-7 (1% in deionised water)
<b>Volatility:</b>	No data
<b>Odour Threshold:</b>	No data

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**Evaporation Rate:** No data  
**Coeff Oil/water distribution:** 3.9 at 25°C (log P octanol/water)  
**Autoignition temp:** >420°C

## 10. STABILITY AND REACTIVITY

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** acids, bases, oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. Hydrogen chloride gas, other compounds of chlorine. Hydrogen fluoride gas and other compounds of fluorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

## 11. TOXICOLOGICAL INFORMATION

### Local Effects:

**Target Organs:** Clodinafop-Propargyl: Liver, skin, bone marrow.

Clodinafop-propargyl is Classified by ASCC as a potential sensitiser by skin contact.

**Clodinafop-propargyl technical:** No evidence of mutagenic, teratogenic or reproductive effects was obtained. It induced liver toxicity and benign and malignant liver tumours in mice fed high daily doses over their whole 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.

### Classification of Hazardous Ingredients

#### Ingredient Risk Phrases

Clodinafop-propargyl  $\geq 1\%$ Conc $<25\%$ : Xi; R43

Cloquintocet-mexyl Conc $\geq 1\%$ : Xi; R43

Aromatic Hydrocarbons Conc $\geq 10\%$ : Xn; R65

## 12. ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term adverse effects to the aquatic environment. This product is not biodegradable; it may accumulate in the soil or water and cause long-term problems.

### Clodinafop-propargyl:

Bees LC50/EC50 > 100 µg/bee

Invertebrates (Water Flea) LC50/EC50 > 2.0 ppm

Fish (Trout) LC50/EC50 0.39 ppm Fish (Bluegill) LC50/EC50 0.21 ppm

Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,200 ppm

Birds (8-day dietary - Mallard Duck) LC50/EC50 > 5,200 ppm

## 13. DISPOSAL CONSIDERATIONS

**Disposal:** There are many pieces of legislation covering waste disposal and they differ in each state and territory, so each user must refer to laws operating in their area. In some areas, certain wastes must be tracked. The Hierarchy of Controls seems to be common - the user should investigate:

Reduce, Reuse, and Recycle and only if all else fails should disposal be considered. Note that properties of a product may change in use, so that the following suggestions may not always be appropriate. The following may help you in properly addressing this matter for this product. Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182

<http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster

<http://www.drummuster.com.au/> where you will find contact details for your area.

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## 14. TRANSPORT INFORMATION

**Not subject to the ADG Code when transported by Road and Rail. (ADG 7, Special Provision AU01).**

**IMDG Code:** 3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Hazchem Code:** 2X

**Special Provisions:** SP179, SP274

**Dangerous Goods Class:** Class 9, Miscellaneous Dangerous Goods.

**Packaging Group:** III

**Packaging Method:** 3.8.9

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

## 15. REGULATORY INFORMATION

**Poisons Schedule S6**

**Packaging & Labelling**

POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

**AICS:** All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredients: Clodinafop-propargyl, Solvent (a liquid hydrocarbon), are mentioned in the SUSDP.

## 16. OTHER INFORMATION

All information contained in this document is as accurate as possible based on information submitted by raw material suppliers. **Rygel Australia Pty Ltd** will not be responsible for any damages that may result from reliance on the information contained herein.

<b>Contact:</b>	Peter Howat	Mobile	0417 921 501
	103 Ordish Road	Phone	61 3 9768 2803
	Dandenong South, Vic 3175	Fax	61 3 9768 2804

National Poisons Information Centre: Dial 13 11 26 (from anywhere in Australia).