

# POISON

KEEP OUT OF REACH OF CHILDREN

READ SAFETY DIRECTIONS BEFORE OPENING OR USING

# Commodore<sup>®</sup>

Herbicide

ACTIVE CONSTITUENT: 480 g/L CLOMAZONE

SOLVENT: 300 g/L LIQUID HYDROCARBONS

GROUP

Q

HERBICIDE

For the control of certain annual broadleaf weeds in Green Beans, Navy Beans, Potatoes and Poppies as per the Directions for Use Table

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CONTENTS: 1L, 5L, 10L, 20L

## DIRECTIONS FOR USE

### RESTRAINTS:

DO NOT apply by aircraft or through irrigation equipment.

DO NOT apply more than a combined total of 2 L/ha on any one paddock in any 12 month period.

DO NOT apply in fog or in conditions conducive to fog.

DO NOT apply to soil intended for seedling transplants, with the exception of tobacco.

DO NOT mechanically incorporate product into soil.

DO NOT apply to soils with both organic carbon content less than 2% and clay content less than 15%, excluding poppy and tobacco crops which have a higher crop tolerance to clomazone at label rates.

### How to use tables:

1. Select rate, or rate range, for use in your crop from Table 1.
2. Check crop tolerance using crop tolerance soil type (Table 2) of the soil that your crop is to be grown in, to determine maximum crop tolerance range. Crop damage may occur if using rates higher than shown in Table 2.

**Note:** Use lower rate (500 mL/ha) in combination with other post plant pre emergent herbicides to broaden weed spectrum.

**Table 1.**

CROP	WEEDS CONTROLLED	RATE	CRITICAL COMMENTS
<b>Green Beans</b> (French Beans)	Apple of Peru ( <i>Nicandra physalodes</i> ), Blackberry Nightshade ( <i>Solanum nigrum</i> ), Fat Hen ( <i>Chenopodium album</i> ),	0.5-1 L/ha	Apply post plant pre-emergence before weeds emerge. Commodore can be used in tank mix with other post plant pre emergent herbicides. Use lower rates in combination with other post plant pre emergent herbicides to broaden weed spectrum.
<b>Navy Beans</b>	Pig Weed ( <i>Portulaca oleracea</i> ), Potato Weed ( <i>Galinsoga parviflora</i> ), Amaranth ( <i>Amaranthus powellii</i> ) (suppression only)	0.5-1 L/ha	Apply post plant pre-emergence before weeds emerge. Commodore can be used in tank mix with other post plant pre-emergence herbicides. Use lower rates in combination with other post plant pre emergent herbicides to broaden weed spectrum.
<b>Poppies</b> (Tas only)			Apply post emergence to actively growing weeds as early as the 2 leaf stage of the crop through to the 8 leaf stage. Commodore is compatible with other poppy herbicides. To broaden weed spectrum, Commodore can be used in tank mixes or in a multiple spray strategy with other poppy herbicides. Use higher rates on heavier soil types and lower rates on sandy, low organic matter soils. Use in accordance with advice from contracting Company's Advisory Officers.
	Amaranth (suppression only)	0.5 mL-1 L/ha	Use the lower rate for small weeds cotyledon to 2 leaf in size. Use the higher rate for high weed pressure or weeds 4-6 leaf in size.
	Fat Hen		Use the lower rate for small weeds cotyledon to 2 leaf in size. Use the higher rate for high weed pressure or weeds 2-4 leaf in size.
	Hogweed ( <i>Polygonum aviculare</i> )	0.25-0.5 L/ha	
	Stagger Weed ( <i>Stachys arvensis</i> )	0.5 L/ha	Apply at the cotyledon to 4 leaf stage.
	Wild Radish ( <i>Raphanus raphanistrum</i> ) (suppression only)	1 L/ha	Apply at the cotyledon to 4 leaf stage. Useful suppression only may be achieved. If weed population is high or weeds are greater than 4 leaf in size, use a dedicated Wild Radish herbicide.
<b>Potatoes</b> (Tas only)	Apple of Peru, Blackberry Nightshade, Fat Hen, Pig Weed, Potato Weed, Amaranth (suppression only)	0.5 L/ha	Apply Commodore in tank mixes with other post plant pre-emergence herbicides to broaden weed spectrum. Apply post plant pre-emergence before weeds emerge. DO NOT apply to emerged potatoes as crop injury may occur.

Table 2 is a crop tolerance calculator for use with all crops with the exception of Poppies and Tobacco which have a higher crop tolerance to clomazone at label rates.

**Table 2. Maximum crop tolerance recommended rates based on soil type (clay and organic carbon content).**

Soil texture	Clay content	Organic carbon content			
		<1%	1-2%	2-3%	>3%
Sand, Loamy Sand, Silt	<15%	Only use in poppies and tobacco		500 mL	500 mL
Loam, Sandy Loam, Silt Loam, Sandy Clay loam	15-30%	Only use in poppies and tobacco	500 mL	500 mL	1 L
Sandy Clay, Clay Loam, Silt Clay Loam, Silty Clay, Clay.	>30%	500 mL	500 mL	1 L	1 L

**NOT TO BE USED FOR ANY PURPOSE, OR IN ANY MANNER, CONTRARY TO THIS LABEL UNLESS AUTHORISED UNDER APPROPRIATE LEGISLATION**

**WITHHOLDING PERIOD:**

*All Crops*

**HARVEST: NOT REQUIRED WHEN USED AS DIRECTED.**

**GRAZING: DO NOT GRAZE OR CUT FOR STOCK FOOD UNTIL AFTER HARVEST.**

**GENERAL INSTRUCTIONS**

Commodore is primarily a soil applied herbicide for the control of certain annual weeds. Plant uptake of Commodore occurs through both the roots and the foliage. The movement of the active constituent clomazone within the plant occurs upward and outwards to the leaf. Clomazone is not downward systemic, or translocated from leaf to leaf.

When using Commodore as a post plant pre-emergence herbicide all emerged weeds should be controlled by application of a non-selective, non-persistent herbicide or by tillage. The soil surface should be left free of large clods of soil that might protect weed seedlings during emergence. Best weed control is achieved when overhead irrigation is used to grow the crop. Commodore should not be mechanically incorporated into the soil as unacceptable crop injury and variable weed control may occur. When using Commodore Herbicide as a post-emergence herbicide ensure weeds are young and actively growing.

**SYMPTOMS**

Clomazone, the active constituent in Commodore, inhibits the biosynthesis of photosynthetic pigments of both chlorophyll and carotenoids. Accordingly the foliage of susceptible plants show signs of chlorosis (whitening or bleaching), followed by necrosis (browning). In some situations, one or more of the following conditions such as; higher use rates, sandy soils, soils of low organic matter, or soils of low pH, may cause an increase in the activity of Commodore and crop damage may occur. DO NOT apply Commodore onto soils with both organic carbon content less than 2% and clay content less than 15%, excluding poppy crops, which have a higher crop tolerance to clomazone at label rates.

Some crop varieties may show differing levels of tolerance to Commodore. It is recommended to test on a small area to ensure tolerance is acceptable before adoption on a wider scale. For more specific information consult with your local dealer.

**COMPATIBILITY**

Commodore may be tank mixed with other post plant pre-emergent herbicides to broaden the weed control spectrum compared to products applied alone. Lower rates of Commodore may be used when tank mixing.

**RICE SAFETY**

Transient bleaching of rice seedlings can occur in some circumstances particularly at the higher rates, in situations where rice seedlings protrude above the water level at time of application, and leaves are directly contacted by the concentrated emulsion or if the rice plant is under stress eg slime, salty soils or cold, deep water. In most cases seedlings usually recover rapidly. The variety Illabong is especially susceptible to bleaching.

DO NOT apply to the variety Illabong established by the following methods – drill, sod or dry broadcast sown prior to permanent flood water.

In cold conditions, the life of Commodore in water can be extended which may increase the likelihood of bleaching in sensitive varieties. Under these conditions use the minimum rate specified for the crop growth stage.

**POPPIES** – Commodore is compatible with asulam, Pelican® and Frontier Optima\*.

Commodore is not compatible with ethofumesate and efficacy can be reduced in tank mixes using fluroxypyr.

Other herbicide combinations should be used with caution and in accordance to advice from contracting Company's Advisory Officers.

**OTHER CROPS** – when tank mixing with other herbicides refer to both product labels to ensure use patterns are compatible ie. post plant pre-emergence and observe all application precautions, rotational guidelines and replanting instructions of each product label.

**RESISTANT WEEDS WARNING**

<b>GROUP</b>	<b>Q</b>	<b>HERBICIDE</b>
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Commodore Herbicide is a member of the Isoxazolidinone group of herbicides. Commodore has the inhibitors of carotenoid biosynthesis mode of action. For weed resistance management Commodore is a Group Q Herbicide. Some naturally occurring weed biotypes resistant to Commodore and other Group Q herbicides may exist through normal genetic variability in any weed population if these herbicides are used repeatedly. These resistant weeds will not be controlled by Commodore or other Group Q Herbicides. Since the occurrence of resistant weeds is difficult to detect prior to use, Chemionova Australia Pty Ltd accepts no liability for any losses that may result from the failure of Commodore or other Group Q Herbicides.

**MIXING**

Add half the required volume of water in spray tank and start agitation. If tank mixing with wettable powders or Water Dispersible Granules add these first, Liquid Suspensions (ie. Flowables) are added next, and Commodore is added last. Maintain good agitation at all times until spraying is completed.

**APPLICATION**

Inappropriate application techniques can result in highly visible symptoms of spray drift. Commodore can be applied as a broadcast or banded application. Use conventional sprayers with either mechanical or by-pass agitation. Apply using flat fan nozzles producing medium to coarse droplets, Spray equipment should be properly calibrated to ensure correct application. To minimise off target movement use the lowest pressure and boom height which provides uniform coverage, using 150 to 400 litres per hectare. DO NOT apply to very wet soils or to soils with a rough surface.

**Band spray rate**

The rate of Commodore for band spraying per hectare of crop is calculated from the broad area rates as follows:

$$\frac{\text{Band width (cm)}}{\text{Row spacing (cm)}} \times \text{Broadcast Rate (L)} = \text{Band Rate (L) per hectare of crop for band spraying}$$

**CROP ROTATION RECOMMENDATIONS**

Commodore treated area may be replanted to any of the specified crops after the interval indicated in the following table.

**Minimum Recropping Intervals For Commodore**

Rate	Minimum Recropping Interval (months after application)					
	0	3	6	9	12	15
0.5 L/ha or less	Poppies Potatoes Cucurbits Beans Tobacco Rice		Barley Oats Wheat Lucerne Rye grass Onions Canola Sub- clover	All other crops		
1.0 L/ha	Potato Cucurbits Beans Tobacco Rice	Poppies		Barley Oats Wheat Lucerne Rye grass Onions Canola Sub-clover	All other crops	
2.0 L/ha	Cucurbits Beans Tobacco	Potato Poppies Rice			Barley Oats Wheat Lucerne Rye grass Onions Canola Sub-clover	All other crops

Tolerance of other crops (grown through to maturity) should be determined on a small scale before sowing into larger areas. Cover crops, however may be planted anytime but stand reductions may occur in some areas.  
DO NOT graze, or harvest for food or feed, cover crops.

**Replanting:** If initial seedlings fail to produce a stand, the crop maybe replanted in fields treated with Commodore alone. Do not retreat field with a second application of Commodore.

DO NOT replant treated fields with any crop at intervals, which are inconsistent with the rotational crop guidelines on this label. When tank mixing observe all application precautions, rotational guidelines and replanting instructions of each product label.

#### **PROTECTION OF CROPS, NATIVE AND OTHER NON-TARGET PLANTS**

DO NOT apply under meteorological conditions or from spray equipment, which could be expected to cause spray drift onto nearby susceptible plants, adjacent crops, crop lands or pastures.

#### **OFF TARGET WHITENING**

Commodore can cause whitening of sensitive plants (ie. some species of trees, shrubs, flowers, agronomic crops and fruit and vegetables) by either spray drift or volatilisation. The application and recommendation for the use of this product should be undertaken only by persons adhering to the following requirements:

##### **Precautions to be taken to minimise potential off-target effects:**

- DO NOT spray within 100 metres of residential or industrial properties or homes on neighbouring properties.
- Where it is proposed to spray within 100 metres of a neighbouring property which is used for primary production, the owner of the property must be given written notice of the intention to spray and information which includes the name of the product being sprayed and its effects on susceptible plant species.
- Ensure that when the product is being diluted prior to application that it is done away from desirable plants.
- DO NOT empty or clean sprayers near homes and sensitive plants.
- DO NOT apply by aircraft, or through irrigation equipment.
- Remove contaminated clothing before entering areas where sensitive plants exist e.g. homes, nurseries, greenhouses and other crops.

##### **Application equipment/calibration:**

- Use coarse nozzles with pressure not exceeding 35PSI/250 kPa (2.5 bar) with boom height no greater than 60 cm above the target.
- Apply only with calibrated equipment.

##### **Minimisation of product volatilisation:**

- Apply to dry soils in 150-400 L water per hectare.
- DO NOT apply to wet soils and or wet plants.
- DO NOT spray poppy crops beyond the 8 leaf stage.
- DO NOT apply in wind gusts over 12 km/hr or when weather conditions favour the formation of inversion layers,
- Weather resulting in warm, high moisture soils increases the volatility potential of Commodore. Sunlight may also heat the soil surface, evaporating soil moisture and causing an inversion effect. This inversion effect causes the product to move to the soil surface where it is more subject to volatilisation.
- DO NOT apply in fog or in conditions conducive to fog.

#### **PROTECTION OF WILDLIFE, FISH, CRUSTACEANS AND ENVIRONMENT**

DO NOT contaminate streams, rivers, or waterways with the chemical or used containers.

#### **STORAGE AND DISPOSAL**

DO NOT store near (or allow to contact) fertilisers, fungicides or pesticides. Store in the closed, original container in a well ventilated area, as cool as possible. DO NOT store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feed stuffs, seed and fertilisers.

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. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

**For refillable containers:** Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

#### **SPILLAGE**

In case of spillage, confine and absorb spilled product with absorbent material such as sand, clay or cat litter. Dispose of waste as indicated below or according to Australian Standard 2507 - Storage and Handling of Pesticides. DO NOT allow spilled product to enter sewers, drains, creeks or any other waterways.

#### **SAFETY DIRECTIONS**

Harmful if inhaled or swallowed. Will irritate the eyes and skin. Avoid contact with eyes and skin. DO NOT inhale vapour. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), elbow-length nitrile gloves and face shield or goggles. When using the prepared spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing) and elbow length nitrile gloves. If product in eyes, wash it out immediately with water. Wash hands after use. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

#### **FIRST AID**

If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. If swallowed, DO NOT induce vomiting. Give a glass of water.

#### **SAFETY DATA SHEET**

Additional information is listed in the Safety Data Sheet available from [www.cheminova.com.au](http://www.cheminova.com.au)

#### **WARNING**

This product must be used, handled and stored strictly as directed in accordance with this label, packaging and other reference material ("Directions"). To the extent permitted by law Cheminova Australia Pty Ltd and its related companies will have no liability for any injury, loss or damage arising from a failure to follow the Directions.

APVMA Approval No: 66264/53146

Batch no:

Date of Manufacture:

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*Bar Code*

*Drummaster logo (where appropriate for pack size)*

**FOR 24 HOUR SPECIALIST ADVICE  
IN EMERGENCY ONLY  
PHONE 1800 033 111**