

**WARNING**  
KEEP OUT OF REACH OF CHILDREN

# CLOZONE

Pre-emergence Herbicide for use against certain broadleaved and grass weeds in Carrots, Peas, Pumpkin, Buttercup Squash, Potatoes, Dwarf Green Beans, Oilseed Rape, Fodder Beet and certain Fodder, Seed and Vegetable Brassicas.

*Active ingredient: 360 g/L Clomazone in the form of a capsule suspension.*

## Net Content: 1L

Registered pursuant to the ACVM Act 1997, No. P9662  
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EPA Approval Code HSR100797  
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# AGPRO

## READ THE LABEL CAREFULLY BEFORE USE



### HAZARD CLASSIFICATION

Flammable liquid Category 4, Hazardous to soil organisms, Hazardous to terrestrial vertebrates, Hazardous to the aquatic environment chronic Category 2.

### WARNING COMBUSTIBLE LIQUID

### ECOTOXICITY

TOXIC TO AQUATIC ORGANISMS WITH LONG LASTING EFFECTS. DO NOT apply into or onto water. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or empty container.

VERY TOXIC TO THE SOIL ENVIRONMENT. HARMFUL TO TERRESTRIAL VERTEBRATES.

Selective herbicide-very toxic to some plant species. **Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.**

Batch No.:

Date of Manufacture:

### QUALIFIED HANDLER

This product must be under the personal control of a suitably qualified handler when mixing, loading or applying.

### REQUIREMENTS FOR KEEPING RECORDS OF USE

If 3L or more is applied within 24 hours in an area where the product is likely to enter air or water and leave the application area, a written record of use is required of each application.

### HANDLING PRECAUTIONS

When mixing or applying, wear protective clothing, gloves and goggles. Do NOT eat, drink or smoke while using. Wash hands and face before meals and after work. Wash protective clothing after work. Keep away from heat/ sparks/ open flames/ hot surfaces.

### CLEANING

Flush spray equipment thoroughly with clean water after use.

### STORAGE

Store in original container tightly closed and in a locked, dry, cool, well-ventilated area, away from feed, seeds and foodstuffs. Do not store or use near sources of ignition. See the Safety Data Sheet for further information.

FREE RECYCLING



AGRECOVERY

[www.agrecovery.co.nz](http://www.agrecovery.co.nz)

LBL064.1

## SPILLS

Wear personal protective clothing and equipment as described in the HANDLING PRECAUTIONS.

Contain the spill then recover by absorbing with sawdust or an inert absorbent material then transfer the recovered spill material to a properly labelled drum. Deal with all spillages immediately. If contamination of drains, streams, watercourses, etc. is unavoidable, warn the local authorities.

## DISPOSAL

Do NOT contaminate any water supply with product or used container.

Product -Dispose of this product only by using according to the label or at an approved facility.

Container -Triple rinse empty container and add rinsate to the spray tank. Recycle empty container at an approved recycling facility. Otherwise crush and bury empty container in a suitable landfill. Do NOT use the container for any other purpose.

## FIRST AID

For advice, contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. If swallowed, do NOT induce vomiting. Get medical advice. If skin contact occurs, remove contaminated clothing and wash hands and exposed skin thoroughly. Get medical advice if irritation occurs.

If splashed in eyes, wash out immediately with water and continue rinsing for at least 15 minutes. If irritation persists, get medical advice. If inhaled, move the

victim to fresh air immediately and get medical advice if person feels unwell.

## PRODUCT INFORMATION

**Clozone** is a pre-emergence residual herbicide which can be used in Carrots, Peas, Pumpkin, Buttercup Squash, Potatoes, Dwarf Green Beans, Oilseed Rape, Fodder Beet and certain Fodder, Seed and Vegetable Brassicas.

**Clozone** is taken up through the roots and emerging shoots of weed seeds. It acts by inhibition of photosynthetic pigments leading to bleaching symptoms on susceptible weed species. Susceptible weeds may emerge but are lacking pigmentation and plant death occurs shortly afterwards.

**Clozone** controls a wide range of annual grass and broadleaf weeds. It has little effective contact action on weed and must be applied pre-emergent on both the weeds and the crop. Crop plants that have emerged at the time of application may be damaged.

**Clozone** may be tank mixed with other herbicides registered for use on the recommended crops (e.g. Dimethenamid-P in buttercup squash, dwarf beans and forage brassicas, Clopyralid/ Picloram in forage brassicas. Also Trifluralin in brassicas and Linuron in beans) to broaden the range of weeds controlled. Observe all label recommendations for both products.

### Soil Type

Do NOT use **Clozone** on very light soils (CEC<10). Use the highest rate

recommended on heavier soils (CEC>20). On soils with very high CEC values >30, e.g. peat and heavy clay soils, **Clozone** may be locked onto soil particles (clay and organic matter) reducing efficacy.

**Direct-drilled crops** should be adequately covered with soil before treatment. If drill slots are open, harrow or roll across them before spraying. Weeds emerging from open drill slots are unaffected by pre-emergence herbicides such as **Clozone** due to lack of direct contact with roots or growing shoots.

### Moisture

Moisture is required to activate **Clozone**. On dry soils a minimum of 13 mm of rainfall or irrigation is required for optimum weed control. Under dry

conditions on cultivated land, shallow incorporation may improve overall weed control.

**Transitory Crop Whitening:** Some whitening of treated crops may occur under certain conditions. It is typically seen on the 1<sup>st</sup> and 2<sup>nd</sup> true leaves but not on the cotyledons. Plants will generally grow through these symptoms with no carry over effect on vigour or yield, provided plant growth is not stalled by cold wet conditions. **DO NOT USE** in late autumn/ early winter when declining soil temperatures and poor growing conditions are likely to occur after emergence. Slow growing, stunted crops may exhibit severe whitening and may not recover from treatment.

## WEEDS CONTROLLED

Susceptible weeds *	Moderately susceptible weeds**	Resistant weeds
Chickweed, Henbit, Shepherds' purse, Sow thistle, Twin cress, Wireweed, Summer grass, Barnyard grass, Cornbind, Groundsel, Portulaca, Speedwells, Cleavers	Fathen (if moisture is available), Fumitory, Mallows, Black nightshade, Redroot, Spurry (Yarr), Willow weed, Yarrow	Docks, Oxalis, Mayweeds, Field Pansy, Clovers
*Subject to rate, soil type and mixing partner	**Subject to rate, soil type and adequate moisture to active <b>Clozone</b>	

\*Susceptible weeds will not be controlled if:

1. Emerged before treatment;
2. Growing on old root systems;
3. They emerge through untreated soil (open drill slots, growing under soil clods).

**Beware: Apply this product carefully. Spray drift may cause serious damage to other desirable plants.**

### DIRECTIONS FOR USE MIXING

Fill spray tank to 1/3 full and with agitation running, add chemicals to tank in the following order:

- a. Wettable powders and dispersible granules;
- b. Suspension concentrates or flowables;
- c. Fill tank to ½ full with agitation running. Add **Clozone**;
- d. Continue to fill spray tank and add emulsifiable concentrates when near full;
- e. Complete filling of spray tank while maintaining agitation. Maintain agitation until spraying is complete.

**It is an offence for users of this product to cause residues exceeding the relevant MRL in the Food Notice: Maximum Residue Levels for Agricultural Compounds.**

## RESISTANCE PREVENTION AND MANAGEMENT

GROUP	13	HERBICIDE
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### APPLY NO MORE THAN 1 APPLICATION PER SEASON AND ONLY IN ACCORDANCE WITH LABEL RECOMMENDATIONS.

**Clozone** contains the GROUP 13 [inhibitors of carotenoid biosynthesis (unknown target)] herbicide, clomazone, and continuous use of herbicides in this group may lead to a build-up of weeds resistance to it. To prevent or delay resistance, alternate with a herbicide from another group if possible and adhere to label instructions.

### RECOMMENDATIONS

Apply to a moist, firm seedbed free from clods, before both weeds and crop have emerged. Apply in sufficient water to obtain even coverage of the soil. A contact herbicide (e.g. glyphosate soluble concentrates) may be added to control emerged weeds).

## VEGETABLE CROPS

Crop	Rate/ ha	Critical Comments
Carrots	250-330 ml	Apply pre-emergence in combination with a suitable carrot herbicide (e.g. Linuron)
Dwarf Green Beans	660 ml	Apply 660 ml per hectare prior to crop emergence. Use a suitable partner herbicide (e.g. Dimethenamid-P) at recommended label rates for a broader spectrum of weed control.
Peas	250-660 ml	Apply prior to crop emergence. Use a suitable partner herbicide e.g. cyanazine or terbutylazine at recommended label rates for a broader spectrum of weed control. Use the light rate on light soils (silts, loams) and higher rates on heavy soils (clay loams) and soils high in organic matter (peats) and where moderately susceptible weed species are present.
Pumpkins, Buttercup Squash	400-660 ml	Use the lower rate on light soils (silts, loams) and higher rates on heavy soils (clay loams) and soils high in organic matter (peats).
Potatoes	330 ml	Apply in combination with a suitable potato herbicide (e.g. Promethryn, Torbutryn/Terbuthyazine, Linuron or Metriburin) at its lowest registered rate, after ridging but before crop emergence.
Vegetable Brassicas*	250-330 ml	Applied in combination with a suitable partner as soon as possible following sowing of the crop and before emergence of both the crop and target weeds, or use alone, immediately prior to transplanting. Avoid Sprayer overlap. Transient whitening may occur on early foliage but yield will not be affected.
Broccoli, Brussel Sprouts, Cabbage, Kohlrabi		

**\*Use of Clozone on Chinese cabbage and other vegetable brassicas not mentioned above is not recommended as crop damage is likely.**

**FORAGE AND SEED BRASSICAS<sup>1</sup> KALE, SWEDE, FORAGE & OIL SEED RAPE AND SPRING AND SUMMER SOWN TURNIP AND TURNIP RELATED CROPS E.G. PASJA**

Situation	Rate	Critical Comments
<b>Direct Drilled</b>	250-330 ml/ ha	To enhance crop establishment and reduce the need for post emergence herbicide treatments, add to the last glyphosate treatment applied before sowing. 350-500 ml of clopyralid/ picloram EC may be added to improve the spectrum of weeds controlled. Moisture after application is critical to activate Clomazone. Soil type and the availability of moisture will affect the degree and spectrum of weed control. A post emergence herbicide treatment may be required.
<b>Drilled-Cultivated Ground</b>	250-330 ml/ ha	Ensure the seedbed is moist, firm and free from clods. Apply after drilling and before crop emergence in combination with suitable partner (e.g. 350-500 ml of clopyralid/ picloram EC). Rainfall or irrigation after treatment will improve weed control.
<b>Pre-plant soil incorporated</b>	400 ml/ ha	Apply in mixture with trifluralin and incorporate before drilling. Ensure even incorporation using a Dutch Harrow or disks set to a fine cut. Avoid sprayer overlaps.

Situation	Rate	Critical Comments
<b>Ridged Seed Bed</b>	400 ml/ ha	Application of pre-emergence herbicides prior to Ridging is common practice, but results in very uneven distribution of the herbicides between and within the ridges. Poor and patchy weed control can result. If this application method is adopted, use of a Cambridge roller to compact the ridge tops is recommended to optimize soil moisture retention and reduce aerated soil conditions. <b>Best practice: Apply pre- emergence after ridging:</b> Apply in combination with a suitable partner (e.g. clopyralid/ picloram EC 350- 500 ml/ ha) as soon as possible following ridging of the crop and before crop and weed emergence. Use of a Cambridge roller to compact ridge tops is recommended prior to herbicide application. <b>To improve evenness of coverage, adjust spray boom to ensure that the nozzle overlap is focused at the top of the ridged soil.</b>
<b>Surface seeding Forage and Oilseed Rape</b>	250-330 ml/ ha	To reduce post-emergence weed pressure <b>Clozone</b> may be applied pre-broadcast sowing of seed. Seed may be sown once spray has dried. The addition of glyphosate is recommended to control established growth. Moisture (13mm) is required to fully activate <b>Clozone</b> and to promote germination of seed.
<b>Fodder Beet</b>	150-200 ml/ ha	Apply pre-emergence of the crop and weeds. Follow up with a post-emergence program. May be tank mixed with ethofumesate or other pre-emergence herbicides. Use the low rate on light soils. Use the high rate on heavier soils. Refer to ' <b>Soil Type</b> ' notes and precautions above.

<sup>1</sup>**Clozone is not recommended for use on Turnip species when Autumn sown and subject to cold slow growing conditions.**

**Use of Clozone on other Brassicas, not mentioned above, is not recommended as crop damage may occur. DO NOT APPLY TO MUSTARD. NOT YET TESTED ON SEED CROPS.**

## OFF TARGET WHITENING

**Clozone** can cause whitening of desirable plants either by spray drift or by volatilization following product dilution or application. The Capsule Suspension formulation reduces, but may not fully prevent this from occurring. The effects may last for a few weeks and plants usually grow out of it with no long term effects. However, all steps should be taken to minimize the likelihood of this whitening occurring.

1. **Ensure that when the product is being mixed into the spray tank that it is done away from desirable plants.**
2. Use the lowest rate necessary for adequate weed control;
3. Apply only with accurately calibrated equipment;
4. Apply in 150-400 L of water per hectare using coarse droplets;
5. **Do not** apply to very wet soils or under cold conditions when conditions are not conducive to crop emergence and when slow crop growth will occur;
6. **Do not** spray in winds over 12 kph or in still conditions;
7. **Avoid** spraying within 100 metres of homes and desirable plants;
8. **Do not** empty or clean sprayers near homes or sensitive plants;
9. **Do not** apply through irrigation systems;
10. **Take extra precautions if applying by air. Add a drift control agent.**

## CROP ROTATION

### Crop failure

Should a crop failure occur: -

- if 660 ml -1.0 L/ ha was used, replant only with cucurbits, and legumes (peas, beans, etc.) within 4 months of application;
- If 250-330 ml/ ha used, the labelled crops may be re-planted immediately.

**Do not re-apply Clozone.** Plough the land after harvest prior to planting any other crops.

### FOLLOW ON CROPS

When used on light soils, particularly under minimum tillage and dry conditions, **Clozone** may persist in the soil for several months. Deep ploughing is recommended before re-cropping under these circumstances if practical. If not, avoid planting annual grass spp., such as Cereals, Sweet Corn, Maize and Annual Ryegrass. Presence of residues will be evident through whitening on broadleaf weed species. If these symptoms are present sow a crop recommended on this label or sow a small area of the intended crop to test for any negative crop effects before any major planting.

**Do not re-apply Clozone.** Plough the land after harvest prior to planting any other crops.

## COMPATIBILITY

**Clozone** is compatible with a wide range of herbicides. Before using large quantities, check compatibility of the mixture with a jar test. Observe all label precautions for both products.

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## CONDITIONS OF SALE

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