

# CLOMAZONE 480EC

Herbicide

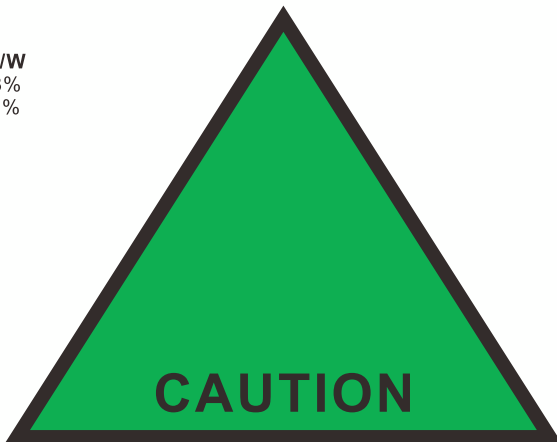
A selective residual pre-emergent, emulsifiable concentrate herbicide for the control of a wide variety of annual grasses and some broadleaf weeds in tobacco.

Reg. No.: 19-C-52-29  
TRB. No.: 22-25-C-27

Composition	W/W
Clomazone	48%
Inert ingredients	52%

Group: Isoxazolidinone

10gr



**HARMFUL IF SWALLOWED**

TO CAUSE A HAZARD IN THE USE,  
STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE.

**KEEP OUT OF REACH OF CHILDREN**



1. Triple rinse clean container after use
2. Punctures holes in bottom
3. Return to Maguire's Recycling Facilitator / Return to nearest recycling facility

Registration held by:

MAGCHEM (PVT) LIMITED  
2274 TILBURY ROAD,  
WORKINGTON, HARARE,  
ZIMBABWE

## SAFETY PRECAUTIONS

1. Handle with care and avoid any contact with the liquid concentrate.
2. Wear protective clothing, boots, rubber gloves and face shield when handling this product.
3. KEEP OUT OF THE REACH OF CHILDREN.
4. KEEP APART FROM FOOD AND FOODSTUFFS.
5. KEEP UNDER LOCK AND KEY.
6. Poisonous by swallowing, inhalation and contact with the skin.
7. Wear goggles or a face shield when using this product. Mildly irritating to the eyes.
8. On completion of spraying wash hands and face thoroughly with soap and water.
9. Clean applicator thoroughly after use. Dispose of washings in a safe manner.
10. DO NOT contaminate drinking pools, dams, rivers, waterways and other water bodies.
11. Dispose of wash water in a designated waste area.
12. May be dangerous to wild animals, birds, fish and bees and other animals.
13. DO NOT eat, drink or smoke while applying this product.
14. Store in original container in a cool, dry place.
15. Triple rinse empty containers and add rinsate to spray tank. Destroy empty containers by crushing and burning-DO NOT use for any other purpose.

## SYMPTOMS OF POISONING

Clomazone has low acute toxicity to mammals. The solvents, however, used in the formulation are flammable, irritate the eyes, skin and respiratory tract. The solvents affect the nervous system and degrease the skin. Risk of serious damage to eyes.

## FIRST AID

### Inhalation:

Remove source of contamination or move victim to fresh air. Obtain medical advice immediately.

### Skin contact:

If irritation occurs, remove contaminated clothing, shoes and leather goods. Gently wipe of excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Seek medical advice if necessary. Persons who become sensitised may require specialised medical management with anti-inflammatory agents.

### Eye contact:

Immediately flush eyes with gently flowing lukewarm water for 20 minutes, holding the eyelid(s) open. Remove contact lenses if worn. Severe contamination may require medical attention.

### Ingestion:

Have victim rinse mouth thoroughly with water. Do not induce vomiting, due to the aromatic solvent. Seek medical advice immediately.

## NOTE TO PHYSICIAN

No signs and symptoms of Clomazone poisoning is known or expected in humans. An antidote is neither known nor needed. Treat symptomatically when required. When large amounts have been ingested, gastric lavage or the administration of activated charcoal with water may be indicated.

## WARNANTY

Provided that the recommendations for usage of this product are strictly followed it should give excellent results, but since the performance of crop protection chemicals can be influenced by factors outside the manufacturer's control, the manufacturer and seller give no guarantee or warranty, either expressed or implied concerning the use and/or storage of this product and accept no responsibility or liability of any nature whatsoever for any damage, injury or financial loss of any nature from the use thereof.

## SAFETY PRECAUTIONS

### Empty container disposal

Drain the empty container over the spray tank or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of 10% of the container. Add the rinsings to the contents of the spray tank. Destroy the empty container by perforation and flattening. Return to supplier for recycling. DO NOT use for any other purpose. Dispose of the wash water at a site for the disposal of pesticides.

### Decontamination of sprayer

Clean applicator thoroughly after use and ensure that all traces of CLOMAZONE 480EC are removed. Make use of the following method:

- (a) Drain and rinse tank, spray boom and hoses with clean water for at least 10 minutes
- (b) Fill tank with clean water and add it to 1 litre household bleach (5%) or 1.5 Litres of household bleach (3.5%) per 200 Litres of water. Rinse hoses and spray boom and leave in tank for 15 minutes whilst agitating. Drain through nozzle outlets.
- (c) Repeat step (b) and thereafter, rinse thoroughly with clean water and dispose of the wash water at a site designated for the disposal of pesticides.

## DIRECTION FOR USE

TRB Certificate No-16-19-C-50

## SOIL PREPARATION

Prepare the soil for planting or transplanting according to good agricultural practices.

## APPLICATION:

CLOMAZONE 480EC must be applied immediately after transplanting tobacco seedlings onto a dry soil surface while plants are still in a mildly irrigated condition. Apply the recommended rate evenly as an overall or brand application in sufficient water to ensure adequate coverage of the soil surface. CLOMAZONE will only control weeds germinating from seed.

## RECOMMENDED RATES AND WEEDS CONTROLLED:

<b>CLOMAZONE 480EC at 1.5 litres/ha</b> (foot)	
Dactyloctenium aegyptium	crab fingergrass
Digitaria sanguinalis	marshgrass
Echinochloa colona	goose grass
Eleusine indica	
Eragrostis spp.	small flowered quick weed
Gaingsoga parviflora	common buffalo grass
Panicum maximum	dwarf grass
Schurkulia pinnata	
<b>CLOMAZONE 480EC at 2.0 litres/ha</b> (non pigweed)	
Amaranthus chlorostachys	thomy pigweed
Amaranthus spinosus	wandering Jew
Commelina benghalensis	common purslane
Portulaca oleracea	
<b>CLOMAZONE 480EC at 2.5 litres/ha</b> (broadleaf)	
Richardia brasiliensis	richardia

On soils with a clay percentage above 2.5% a higher dosage rate may be necessary but the highest rate of 2.5 litres/ha may not be exceeded. Contact your supplier.

CLOMAZONE 480EC controls annual grasses and some broadleaf weeds. Other annual grasses and limited broadleaf weeds that were not present during the development of the product, may possibly also be controlled to a certain degree. The supplier does not accept any responsibility for unlisted weeds.

## WARNINGS:

### FOLLOW-UP CROPS:

The following crops can be planted 6 months after the application of CLOMAZONE 480EC: Cabbages, Cucurbits, Maize, Oats, Onions, Peas and Sweetcorn. Wheat and Grasses lays may be planted 9 months after application. Deep cultivation of soil prior to planting the following-up crops will reduce the potential risk of carryover.

- \* Store in a cool, dry place away from food, feeds, seed, other agricultural remedies and out reach of children, animals and unformed persons.
- \* Handle concentrate with care.
- \* Poisonous if swallowed, inhaled or absorbed through the skin.
- \* Toxic to fish.
- \* Because tobacco seedlings do not necessarily undergo a period of wilting after transplanting, phytotoxic (bleaching) symptoms may occur.

- \* A slight yellowing of the sand leaves of the tobacco plants, which is of a temporary nature, may occur.
- \* Some phytotoxic symptoms may occur on adjacent crops, shrubs and trees as a result of spray drift or volatility of the product. Spray drift is the physical movement of spray droplets and is enhanced by too small droplets, too high spray pressure, spraying in windy conditions and when spray booms are mounted too high. Use the proper size nozzle to deliver the desired spray volume at the lowest possible spray pressure-Do not spray when the wind speed exceeds 15km/h.

**DO NOT APPLY CLOMAZONE WITHIN 300 METERS OF TREE CROPS, SHRUBS OR VEGETABLES.** Volatilisation, in tum, is enhanced by high temperature, high humidity and moist soil.

**Date of Manufacture:**

**Batch Number:**

Manufactured by:

NOVA AGRO (HK) LTD  
6TH FLOOR, WYNDHAM PLACE,  
44 WYNDHAM STREET,  
CENTRAL HONG KONG

Registration held by:

MAGCHEM (PVT) LIMITED  
2274 TILBURY ROAD,  
WORKINGTON, HARARE,  
ZIMBABWE

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## 1. IDENTIFICATION OF THE SUBSTANCE AND THE COMPANY

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**PRODUCT NAME** CLOMAZONE 480EC  
Common name Clomazone  
Chemical name 2-(2-chlorobenzyl)-4,4-dimethyl-1,2-oxazolidin-3-one  
Chemical group Unclassified

**SUPPLIER** NOVA AGRO (HK) LTD  
(Reg. No. 1023146)  
6th Floor Wyndham Place  
44 Wyndham Street  
CENTRAL HONG KONG.

Emergency Tel/Fax (+27) 83 676 1998

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## 2. COMPOSITION / INFORMATION ON INGREDIENTS

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Clomazone (CAS 81777-89-1) 480g/litre

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## 3. HAZARDS IDENTIFICATION

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### EMERGENCY OVERVIEW

- Brown liquid with a slightly aromatic hydrocarbon odor.
- Slightly combustible. May support combustion at elevated temperatures.
- Thermal decomposition and burning may form toxic by-products.
- For large exposures or fire, wear personal protective equipment.
- Highly to slightly toxic to fish and aquatic organisms. Keep out of drains and water courses.

**POTENTIAL HEALTH EFFECTS:** Effects from overexposure result from coming into contact with the skin and eyes. Symptoms of overexposure include nasal discharge.

**MEDICAL CONDITIONS AGGRAVATED:** None presently known.

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## 4. FIRST AID MEASURES

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**EYES:** Flush with plenty of water. Get medical attention if irritation occurs and persists.

**SKIN:** Wash with plenty of soap and water.

**INGESTION:** Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

**INHALATION:** Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

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**NOTES TO MEDICAL DOCTOR:** This product has low oral, dermal and inhalation toxicity. It is non-irritating to the eyes and skin. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

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## **5. FIRE FIGHTING MEASURES**

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**FLASH POINT AND METHOD:** >94°C (TOC)

**EXTINGUISHING MEDIA:** Foam, CO<sub>2</sub> or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

**FIRE / EXPLOSION HAZARDS:** Slightly combustible. This material may support combustion at elevated temperatures.

**FIRE FIGHTING PROCEDURES:** Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Carbon monoxide and/or carbon dioxide, oxides of nitrogen, chlorine and hydrogen chloride.

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## **6. ACCIDENTAL RELEASE MEASURES**

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**RELEASE NOTES:** Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a non-combustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize tools and equipment, wash with a 20% solution of potassium hydroxide in methanol. Follow by washing with strong soap and rinsing with water, and add both solutions to the drums of waste already collected.

To clean and neutralize spill areas, spray the area with a 20% solution of potassium hydroxide in methanol. Cover the treated area with plastic and let stand for 24 hours. Remove the covering and place in a drum for later disposal. Wash the area, three times, with a strong soap and rinse with water. If spill occurs on a wooden surface, repeat the entire process again. Absorb, as above, any excess liquid and add to the drums of waste already collected. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

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## **7. HANDLING AND STORAGE**

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**GENERAL PROCEDURES:** Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. For re-circulation directions, refer to the product label under 'Mixing and Handling' instructions, for 'Bulk/Mini-Bulk Containers'. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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**ENGINEERING CONTROLS:** Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

**RESPIRATORY:** For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S. NIOSH/MSHA, EU CEN or comparable certification organization). Respirator use and selection must be based on airborne concentrations.

**PROTECTIVE CLOTHING:** Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

**WORK HYGIENIC PRACTICES:** Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

### GLOVES:

Wear chemical resistant gloves made of materials such as nitrile. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**ODOUR:** Slight aromatic  
**APPEARANCE:** Brown liquid  
**pH:** 6.5 @ 20°C  
**SOLUBILITY IN WATER:** Emulsifies  
**MOLECULAR WEIGHT:** 239.7 (clomazone)

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## 10. STABILITY AND REACTIVITY

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**CONDITIONS TO AVOID:** Excessive heat and fire.

**STABILITY:** Stable

**POLYMERIZATION:** Will not occur

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## 11. TOXICOLOGICAL INFORMATION

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**DERMAL LD<sub>50</sub>:** >5000 mg/kg (rat)  
**ORAL LD<sub>50</sub>:** >5000 mg/kg (rat)  
**INHALATION LC<sub>50</sub>:** >5.21mg/l/4 hr (rat) (maximum attainable concentration - zero mortality)



## MATERIAL SAFETY DATA SHEET

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**ACUTE EFFECTS FROM OVEREXPOSURE:** This product has low oral, dermal and inhalation toxicity. It is non-irritating to the eyes and skin. Signs of toxicity noted in laboratory animals included abdominogenital staining, chromorhinorrhea, chromodacryorrhea, decreased locomotion, dyspnea, diarrhea, and oral and nasal discharge. Calcium chloride may cause moderate to severe eye irritation, which may result in corneal injury. Prolonged or repeated exposure of calcium chloride, on the skin, may cause skin irritation or even burns; the severity of skin irritation may increase on damp or abraded skin.

**CHRONIC EFFECTS FROM OVEREXPOSURE:** No data available for the formulation. In studies with laboratory animals, clomazone did not cause reproductive toxicity, teratogenicity, or carcinogenicity. Liver enlargement and elevated cholesterol levels are often noted in laboratory animals that have ingested large doses of clomazone during their lifespan. An overall absence of genotoxicity has been demonstrated in tests of mutagenicity, DNA damage and chromosome aberrations.

**CARCINOGENICITY:**

IARC: Not listed

NTP: Not listed

OSHA: Not listed

OTHER: (ACGIH) Not listed

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## 12. ECOLOGICAL INFORMATION

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**ENVIRONMENTAL DATA:**

Clomazone has a moderate rate of degradation in soil (half-life = 24 days), and is stable to hydrolysis over a wide range of pH. The bioconcentration potential for clomazone is low, with a Log Pow of 2.5, and a measured bioconcentration factor (BCF) of 27 - 40. Field studies showed that clomazone does not significantly leach below 15 cm in soil and is, therefore, not expected to enter groundwater.

**ECOTOXICOLOGICAL INFORMATION:**

Clomazone Technical:

Freshwater fish: 96-hour LC<sub>50</sub> = 34 (Bluegill sunfish) (slightly toxic)

Estuarine invertebrates: 96-hour LC<sub>50</sub> = 8.9 mg/l (Pink shrimp) (moderately toxic)

Estuarine fish: LC<sub>50</sub> = 6.3 (Atlantic silverside, moderately toxic) - 41 mg/l (Sheepshead minnow, slightly toxic)

Estuarine invertebrate: LC<sub>50</sub> = 0.57 mg/l (Mysid) (highly toxic)

Waterfowl / Upland game birds: Oral LD<sub>50</sub> >2510 mg/kg; Dietary LC<sub>50</sub> >5620 ppm (low toxicity).

Care should be taken to avoid contamination of the aquatic environment.

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## 13. DISPOSAL CONSIDERATIONS

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**DISPOSAL METHOD:** Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental

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laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

**EMPTY CONTAINER:** Non-returnable containers which held this material should be cleaned, prior to disposal, by triple rinsing. Containers which held this material may be cleaned by being triple-rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapours that form may create an explosion hazard.

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#### 14. TRANSPORT INFORMATION

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**Road transport ADR/RID**

UN No: 3082

Class: 9

Number/letter: 11 / (c)

**Proper shipping name:** Environmentally hazardous substance, liquid, n.o.s.,  
(contains clomazone 480g/l)

**Maritime transport IMDG**

UN No: 3082

Class-primary: 9 Miscellaneous

Pack. Group: III

**Proper shipping name:** Environmentally hazardous substance, liquid, n.o.s.,  
(contains clomazone 480g/l)

**Marine pollutant****Air transport ICAO/IATA**

**Proper shipping name:** Environmentally hazardous substance, liquid, n.o.s.,  
(contains clomazone 480g/l)

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#### 15. REGULATORY INFORMATION

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**Classification:** Harmful, Irritant; Dangerous for the environment

Hazard symbols Xi; N

**Risk Phrases:**

**R20:** Harmful by inhalation.

**R36** Irritating to eyes

**R37/38:** Irritating to respiratory system and skin.

**R43:** May cause sensitisation by skin contact.

**R50/53:** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**

**S2:** Keep out of the reach of children.

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**S36/37:** Wear suitable protective clothing and gloves.  
**S60:** This material and/or its container must be disposed of as hazardous waste.  
**S61:** Avoid release to the environment.

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## **16. OTHER INFORMATION**

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The information on this sheet is not a specification; it does not guarantee specific properties.

The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of the product.

It is not applicable to unusual or non-standard uses of neither the product nor where instructions or recommendation are not followed.

All information is given in good faith but without guarantee in respect of accuracy, and no responsibility is accepted for errors or omissions or the consequence thereof.

### **REFERENCES**

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- SABS 0265, 1999.
- EINECS CD 1999.
- HSDB (Hazardous substance Database).
- Dangerous Goods Regulations, IATA, 44<sup>th</sup> Edition, Effective 1 January 2003.
- IMDG CODE, Vol. 2, 2000 Edition.