

# CLOZONE 480 EC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** CLOZONE 480 EC  
**Other identifier:** Clomazone 480 EC  
**Recommended use:** Herbicide  
**Restrictions on use:** Agriculture

**Supplier:** Villa Crop Protection (Pty) Ltd  
**Co. Reg. No.:** 1992/002474/07  
 PO Box 10413,  
 Aston Manor, 1630, South Africa  
**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone numbers:**  
**24 Hr Transport / Spill emergency no:**  
 (Hazcall24) +27 86 044 4411  
 (Client: Villa Crop Protection)  
 Griffon Poison Information Centre +27 82 446 8946  
 (Client: Villa Crop Protection)  
**Poisoning Emergency telephone numbers:**  
 Griffon Poison Information Centre +27 82 446 8946  
 Poisons Information Centre +27 861 555 777

## 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Physical</b>		
Flammable	Flam. Liq. 4	H227
<b>Health</b>		
Oral	Acute tox 5	H303
Dermal	Acute tox 5	H313
Eye	Eye dam 1	H318
<b>Environment</b>		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

**The most important adverse effects:**  
**Physiochemical effects:** Flammable.  
**Human health effects:**  
 May be harmful if swallowed.  
 May be harmful if in contact with skin.  
 Causes serious eye damage.  
**Label elements:**



**Signal word:** Danger

## Hazard statements:

**H227:** Combustible liquid  
**H303:** May be harmful if swallowed.  
**H313:** May be harmful if in contact with skin.  
**H318:** Causes serious eye damage.  
**H400:** Very toxic to aquatic life.  
**H410:** Very toxic to aquatic life with long lasting effects.

## Precautionary statements:

**P210:** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
**P264+P265:** Wash hands and face thoroughly after handling. Do not touch eyes.  
**P273:** Avoid release into the environment.  
**P280:** Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.  
**P301+ P316:** IF SWALLOWED: Get medical help.  
**P302+P317:** IF ON SKIN: IF ON SKIN: Get medical help.  
**P305+P354+P338:** IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P317:** Get medical help.  
**P370+P378:** In case of fire: Use carbon dioxide to extinguish.  
**P391:** Collect spillage.  
**P403:** Store in a well-ventilated place.  
**P501:** Dispose of content/container to suitable landfill in accordance with local regulations.

## Other hazards:

None known.  
**Toxicity:**  
 Classification according to GHS: category 5

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance / Mixture:** Mixture

Composition:

Chemical name	CAS	Conc. (m/v)	Classification EC 1272/2008
Clomazone	81777-89-1	44.44 %	Acute tox 4 (H302) Acute tox 4 (H332) Aquatic acute 1 (H400) Acute chronic 1 (H410)
Calcium n-dodecyl benzenesulfonate	26264-06-2	< 10 %	Acute tox 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 4

## CLOZONE 480 EC

## SAFETY DATA SHEET

			(H413)
Tert-Butyl acetate	540-88-5	< 10 %	Flam. Liq. 2 (H225)
Tris(2-Hydroxyethyl) Amine	102-71-6	< 5 %	Not deemed to be toxic by the European Chemicals Agency.
solvent Naphtha 100	64742-94-5	<40%	Asp. Tox. 1 (H304)

**Special fire-fighting procedures:** Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Remain upwind of fire. Avoid inhaling hazardous vapours and fumes from burning materials. Remove container from fire area if possible and without risk. Do not use high volume water jet, due to contamination risk. Do not scatter the burning material. Water can be used to cool unaffected containers but must be contained for later disposal. Contain fire control agents for later disposal. Avoid pollution of waterways by run-off from the site.

**Personal protective equipment:** Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear.

### 4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of any complaints or symptoms, avoid further exposure.

**Immediately consult a doctor.**

**Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. **Seek medical attention if you feel unwell after inhalation.**

**Skin:** Remove contaminated clothing and shoes. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap. Obtain medical attention if irritation persists.

**Eyes:** Flush eyes with clean water for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention.**

**Ingestion:** Seek medical attention or call a poison control centre for treatment advice. Do not induce vomiting unless instructed to do so by a poison control centre or doctor. Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.

**Seek medical attention.**

**Anticipated acute effects:**

May be harmful if swallowed.

May be harmful if in contact with skin

Causes serious eye damage.

**Causes serious eye damage.**

**Harmful if inhaled.**

**Anticipated delayed effects:** None known.

**Most important symptoms / effects:** None known.

**Advice to physician:** Treat symptomatically and supportively. No specific antidote known.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media:** Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.

**Unsuitable Extinguishing Media:** High volume water jet. Use a water jet only to cool heated containers.

**Specific hazards:** On combustion the following gases may be released: Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride (HCl).

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Avoid contact with eyes. Do not breathe in spray mist / vapours. **Do not breathe in spray mist or vapours.** Ventilate area of spill or leak, especially in contained areas.

**Protective equipment:** Refer to Section 8 for personal protective equipment to be worn during containment and clean-up of a spill involving this product.

**Emergency procedures:** Alert firefighting personnel, evacuate unprotected personnel and animals.

**Environmental Precautions:** Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment. Any spillages or uncontrolled discharges into watercourses should be reported immediately to the police and the Department of Water / Environmental Affairs.

**Methods and Materials for Containment:** Contain spilled product by diking area with sand or earth.

**Methods and Materials for Clean-up:** Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. Label containers with the contents and dispose of according to local regulations. Do not place spilled material back in original container. Do not re-use spilled material. Collect washings and add to the drums already collected. Do not flush spilled material or washings into drains or waterways. To decontaminate the spill area, tools and equipment, wash with water and suitable detergent. See section 13 for disposal considerations.

### 7. HANDLING AND STORAGE

**Handling:**

**Precautions for safe handling:** Harmful if swallowed. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not inhale spray

# CLOZONE 480 EC

# SAFETY DATA SHEET

mist or vapours). Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers closed when not in use. In the case of contact with the product refer to First Aid Measures – Section 4.

**General occupational hygiene:** Practice good hygiene when using this material. Wash hands before eating, drinking, chewing gum, smoking, using the toilet or applying cosmetics. Worker should shower at the end of each workday. Launder all clothing before it is re-used.

**Storage:**

**Conditions for safe storage:** Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original, labelled container, tightly closed in an isolated, dry, cool and well-ventilated area. Do not store near heat, open flame, sources of ignition or hot surfaces. Avoid excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

**Incompatible substances and mixtures:** Refer to product label.

**Packaging material:** Fluorinated plastic containers

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Permissible concentration**

Components	Exposure limits	Type of exposure limit	Source
Tert-butyl acetate	200 ppm (TWA)	950 mg/m <sup>3</sup> (TWA)	"Hazardous Chemical Substances Regulations, 1995" or "www.osha.gov"

**Engineering Controls:**

It is essential to provide adequate ventilation. The measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. Local Exhaust: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OELs or other specified exposure limits. Local exhaust ventilation is preferred. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire and other applicable regulations.

**Personal Protective Equipment:**

**Respiratory Protection:** If used in a poorly ventilated area (airborne concentrations exceed exposure limits), use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.

**Hand Protection:** The use of chemically protective (impervious) gloves is recommended to prevent against skin contact.

**Eye Protection:** The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employees must wear appropriate protective (impervious) clothing, (rubber) boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

**Emergency eyewash:** Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Light yellow, Emulsifiable concentrate

**Odour:** Characteristic odour

**Odour threshold:**

**pH (1% aqueous dilution):** 6.8 @ 25 °C.

**Melting point:** Not available.

**Freezing Point:** 0 °C.

**Boiling Point:** Not available.

**Flash Point:** Not available

**Flammability:** Flammable

**Upper / lower explosion limits:**

**Vapour Pressure (mm Hg):** Not available.

**Relative Vapour Density:** Not available.

**Density / Relative density:** 1.087 g/ml @ 20 °C..

**Solubility:** Emulsifies in water.

**n-octanol / water partition coefficient:** Not available.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

**Viscosity:** Not available

## 10. STABILITY AND REACTIVITY

**Chemical stability:** The product is stable for two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.

**Reactivity:** None known.

**Possibility of hazardous reactions:** Unlikely to occur.

**Conditions to avoid:** Extreme heat or exposure to flames.

**Incompatible materials:** Strong oxidizers, strong bases, strong reducing agents.

**Hazardous decomposition products:** Alcohols. carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion.

## 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:**

Calculated according to GHS:

**Oral LD<sub>50</sub> (24h)** 2879 mg/kg (rat)

**Dermal LD<sub>50</sub>** > 2252 mg/kg (rabbit)

# CLOZONE 480 EC

# SAFETY DATA SHEET

**Inhalation LC<sub>50</sub> (4h) > 5 mg/l (rat)**  
**Skin Irritation:** Causes skin irritation.  
**Eye Damage:** Causes serious eye damage.  
**Skin Sensitization:** Not classified.  
**Respiratory Sensitization:** Not classified.  
**Reproductive cell mutagenicity:** Not classified.  
**Carcinogenicity:** Not classified.  
**Reproductive toxicity:** Not classified.  
**Specific target organ toxicity – single exposure:** Not classified.  
**Specific target organ toxicity – repeated exposure:** Not classified.  
**Aspiration hazard:** May be fatal if swallowed and enters airways.  
**Chronic Effects:** Not classified.  
**POTENTIAL ADVERSE EFFECTS:**  
**Inhalation:** Harmful if inhaled.  
**Skin contact:** Causes skin irritation.  
**Eye contact:** Causes serious eye damage.  
**Ingestion:** May be harmful if swallowed.

## 12. ECOLOGICAL INFORMATION

This product is considered to be very toxic to aquatic life and cause harmful long-lasting effects.

### ECOTOXICITY DATA:

#### Clomazone

##### Fish:

<b>LC50 (96 h)</b>	Rainbow trout	>15.5 mg/l
	Bluegill sunfish	>34 mg/l

##### Daphnia:

<b>EC50 (48 h)</b>		12.7 mg/l
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##### Algae:

<b>EC50 (48 h)</b>	Navicula pelliclosa	0.185 mg/l
	Selenastrum capricornutum	4.1 mg/l

##### Birds:

<b>Acute oral LD50</b>	Mallard ducks	>2510 mg/kg
	Bobwhite quail	>2510 mg/kg

##### Bees:

<b>LD50 contact</b>		>96.6mg/bee
<b>LD50 oral</b>		>87.9 mg/bee

##### Worms:

<b>LC50 (14 d)</b>	Eisenia foetida	>530 mg/kg.
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## ENVIRONMENTAL EFFECTS

### Based on information for active ingredient:

**Plants:** Metabolism involves hydroxylation of the methylene carbon bridge, the isoxazolidinone ring, and the aromatic ring. Hydroxylation on the methylene position is followed by decomposition to form isoxazolidinone and 2-chlorobenzaldehyde; these metabolites are then oxidised or reduced. Hydroxylated products are conjugated, to yield glucosides and amino acid conjugates.

**Persistence and degradability:** Not determined.  
**Bio-accumulative potential:** Clomazone is rapidly and extensively absorbed after oral administration (87–100% within 48 h) and rapidly and completely excreted after 7 d; residues in animal tissues are negligible. Clomazone is almost completely metabolised by hydroxylation and oxidation/opening of the 3-isoxazolidone ring.  
**Mobility in soil:** Moderately persistent in soil, DT50 c. 30–135 d. Koc 150–562, suggesting clomazone would be mobile in soil; however, in field trials, it was found not to leach beyond the top 10 cm of soil.  
**Other adverse effects:** Not determined.

## 13. DISPOSAL CONSIDERATIONS

**Waste:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or re-processed. Never pour untreated waste or surplus product into public sewers or where there is any danger of run-off or seepage into water systems. Do not contaminate rivers, dams or any other water sources with the product or used containers. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

**Container:** Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank. Puncture the triple rinsed container and dispose of via an approved collector or recycler ([www.croplife.co.za](http://www.croplife.co.za)). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. Observe all labelled safeguards until container is destroyed.

## 14. TRANSPORT INFORMATION

**UN Number:** 3082  
**Road Transport ADR/IRD:**  
 Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Clomazone 480 g/l)

**Maritime Transport IMDG/IMO:**  
 Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Clomazone 480 g/l)

**Marine Pollutant (Y/N):** Y  
**Air Transport IATA/ICAO:**  
 Class: 9  
 Packaging group: III

## CLOZONE 480 EC

## SAFETY DATA SHEET

UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Clomazone 480 g/l)

**Special / Environmental Precautions:** Wedge drums tightly to avoid movement.

**Transport in bulk:** Refer to MARPOL 73/78, Annex II and the IBC code.

### 15. REGULATORY INFORMATION

**Safety, health and environmental regulations / legislation for the mixture:**

OHSA 1993 Regulations for Hazardous Chemical Substances.

**Relevant information regarding restrictions:** None.

**EU regulation:** Regulation EC1272/2008 (EU-GHS/CLP)

**Other national regulations:** None.

**Chemical Safety Assessment carried out?** No

### 16. OTHER INFORMATION

**Packaging 250 and 500ml, 1,5,10,20,25 liters in Fluorinated Plastic containers** labelled according to South African regulations and guidelines.

**Other hazard statements, abbreviations and explanations:**

**H225:** Highly flammable liquid and vapour.

**H302:** Harmful if swallowed.

**H304:** May be fatal if swallowed and enters airways.

**H315:** Causes skin irritation.

**H318:** Causes serious eye damage.

**H332:** Harmful if inhaled.

**H400:** Very toxic to aquatic life.

**H410: Very toxic to aquatic life with long lasting effects.**

**H413:** May cause long lasting harmful effects to aquatic life.

**IATA:** International Air Transport Association.

**IBC:** International Bulk Chemical.

**ICAO:** International Civil Aviation Organization.

**IMDG:** International Maritime Dangerous Goods

**IMO:** International Maritime Organization.

**LD<sub>50</sub> value:** The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

**OEL/RL:** Occupational exposure limit-recommended limit.

**PEL:** Permissible Exposure Limits.

**TWA:** Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

**ST/STEL:** Short-term exposure limits.

**Disclaimer:** 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 the product nor where instructions or recommendations are not followed. All information is given in good faith but without

guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

### END OF DOCUMENT

**Compiled:** May 2017

**Reviewed:** August 2022

**Revision no.:** (2)

**Next revision date:** August 2027

For detailed information on revisions, contact the Registration holder.