

UCP BROMOXYNIL 225 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BROMOXYNIL 225 EC
Other identifier: Bromoxynil as the octanoate
Recommended use: Herbicide
Restrictions on use: Agriculture

Supplier: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801,
 Kempton Park, 1620, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: www.villacrop.co.za

Emergency telephone numbers:
24 Hr Transport / Spill emergency no:
 Envirosure. +27 31 205 4918
 (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
Villa Crop Protection Emergency number:
National Safety, Health and Environmental Manager:
 +27 63 698 0668

2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Physical		
Flammable	Flammable liquid 3	H226
Health		
Oral	Acute Toxicity 4	H302
Aspiration Toxicity	Aspiration Toxicity 1	H304
Dermal	Acute Toxicity 5	H313
	Skin Irritation 3	H316
	Skin sensitization 1	H317
Eye	Eye damage 1	H318
Inhalation	Acute Toxicity 2	H330
Reproduction	Reproductive Toxicity 2	H361d
Environment		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

The most important adverse effects:
Physiochemical effects: None known.
Human health effects:
 May be fatal if swallowed and enters airways.
 Causes serious eye damage.
 Fatal if inhaled.
 Suspected of damaging the unborn child.

Label elements:



Signal word: Danger
Hazard statements:
 H226: Flammable liquid and vapour.
 H302: Harmful if swallowed.
 H304: May be fatal if swallowed and enters airways.
 H313: May be harmful in contact with skin.
 H316: Causes mild skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H330: Fatal if inhaled.
 H361d: Suspected of damaging the unborn child.
 H400: Very toxic to aquatic life.
 H410: Very toxic to aquatic life with long lasting effects.
Precautionary statements:
 P202: Do not handle until all safety precautions have been read and understood.
 P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233: Keep container tightly closed.
 P260: Do not breathe mist/spray.
 P264: Wash skin and eyes thoroughly after handling.
 P270: Do not eat, drink or smoke when using this product.
 P273: Avoid release to the environment.
 P280: Wear impervious rubber gloves and chemical safety goggles.
 P284: In case of inadequate ventilation wear respiratory protection.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P310: Immediately call a POISON CENTRE.
 P302+P352: IF ON SKIN: Wash with plenty of water and soap.
 P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [shower].
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
 P308+P313: If exposed or concerned: Get medical attention.
 P331: Do NOT induce vomiting.
 P333+P313: If skin irritation or rash occurs: Get medical advice.
 P391: Collect spillage.

UCP BROMOXYNIL 225 EC

SAFETY DATA SHEET

P403+P233: Store in a well-ventilated place. Keep container tightly closed.
 P403+P235: Store in a well-ventilated place. Keep cool.
 P405: Store locked up.
 P501: Dispose of contents/container in accordance with local regulations.
Other hazards:
 None known.
Toxicity:
 Classification according to GHS: Category 2
 Classification according to WHO: Group II
 Classification according to GPIC: Category II

oxygen if respiration is depressed. Do not perform gastric lavage of patient is unconscious. Qualified medical personnel should perform administration of gastric lavage or oxygen.

Anticipated acute effects:

Harmful if swallowed.
 May be fatal if swallowed and enters airways.
 May be harmful in contact with skin.
 Causes mild skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye damage.
 Fatal if inhaled.

Anticipated delayed effects:

Suspected of damaging the unborn child.

Most important symptoms / effects: None known.

Advice to physician: There is no known antidote. Treat symptomatically and supportively as and when required. Gastric lavage or the administration of activated charcoal with water may be indicated. Do not perform gastric lavage if patient is unconscious.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Chemical name	CAS	Conc. (%)	Classification 1272/2008	EC
Bromoxynil octanoate	1689-99-2	22.5 m/v	Acute Toxicity 4 (H302) Skin Sensitization 1 (H317) Acute Toxicity 3 (H331) Reproductive Toxicity 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	
Calcium dodecylbenzoate	84989-14-0	> 5 m/m	Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic Chronic 3 (H412)	
Aromatic hydrocarbon	64742-94-5	> 50 m/m	Aspiration toxicity 1 (H304)	

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish small fires with carbon dioxide, dry powder, halon or alcohol-resistant foam. Water spray or fog can be used for larger fires or cooling of unaffected stock but avoid the accumulation of polluted run-off from the site.

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

Specific hazards: The product is **Flammable**. Vapour air mixtures may be explosive. Hazards or hazardous products arising from combustion.

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. **Immediately seek medical attention.**

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 immediately.**

Ingestion: Do not induce vomiting. Seek medical attention or call a poison control centre for treatment advice. If the person is alert, rinse mouth thoroughly with water. Remove by gastric lavage and catharsis and give

6. ACCIDENTAL RELEASE MEASURES

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

UCP BROMOXYNIL 225 EC

SAFETY DATA SHEET

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 with 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 and may be fatal if swallowed and enters airways. Avoid contact with skin and eyes. **Do not inhale spray 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. 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

No occupational exposure limits have been determined for the significant ingredients in this product.

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: Use a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours. **This product can be fatal if inhaled.**

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

Eye Protection: Chemical safety goggles should be worn at all times to prevent eye contact. Contact lenses are not protective eye devices. **This product causes serious eye damage.**

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. This product may be harmful in contact with skin.

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: Brown liquid.

Odour: Ester-like odour.

Odour threshold: Not available.

pH (1% aqueous dilution): 4.48

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: 48 °C (Pensky Martins closed cup).

Flammability: Not applicable to solids.

Upper / lower explosion limits: Not applicable to solids.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density / Relative density: 1.01 g/cm³

Solubility: Emulsifies in water.

n-octanol / water partition coefficient: (data for technical material). K_{ow} (log P): 5.4

UCP BROMOXYNIL 225 EC

SAFETY DATA SHEET

Auto-ignition temperature: Not applicable to solids.
Decomposition temperature: Not available.
Viscosity: Not applicable to solids.

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: Spray solutions containing this product should be mixed stored or applied using stainless steel, aluminium, fibreglass or plastic-lined containers and equipment. Product is relatively stable in neutral and weakly acidic media, but rapidly hydrolysed in strong acids and alkalis.

Hazardous decomposition products: Thermal decomposition - Toxic oxides of nitrogen and corrosive bromine are released when the product decomposes on heating.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD₅₀ (24h) > 700 mg/kg (rat)

Dermal LD₅₀ > 4900 mg/kg (rabbit)

Inhalation LC₅₀ (4h) > 1.05 mg/l (rat)

Skin Irritation / Corrosion: Causes mild skin irritation.

Eye Damage / Irritation: Causes serious eye damage.

Skin Sensitization: May cause an allergic skin reaction.

Respiratory Sensitization: Not available.

Reproductive cell mutagenicity: Not available.

Carcinogenicity: Not available.

Reproductive toxicity: Suspected of damaging the unborn child.

Specific target organ toxicity – single exposure: Not available.

Specific target organ toxicity – repeated exposure: Not available.

Aspiration hazard: May be fatal if swallowed and enters airways.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Fatal if inhaled.

Ingestion: Harmful if swallowed.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

ECOTOXICITY DATA:

Active ingredient - bromoxynil as the octanoate

Fish:

LC ₅₀ (96 h)	Rainbow trout	0.041 mg/l
	Bluegill sunfish	0.06 mg/l
	Sheepshead minnows	0.17 mg/l

Daphnia:

LC ₅₀ (48 h)		0.026 mg/l
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Algae:

EC ₅₀ (96 h)	Green algae	1 mg/l
EC ₅₀ (120 h)	<i>Navicula pelliculosa</i>	0.043 mg/l
	<i>Selenastrum capricornutum</i>	0.22 mg/l

Birds:

Acute oral LD ₅₀	Bobwhite quail	170 mg/kg
	Mallard ducks	2350 mg/kg
	Canaries	153 mg/kg
Dietary LC ₅₀ (5 d)	Bobwhite quail	1315 mg/kg diet
	Mallard ducks	2150 mg/kg diet

Bees:

LD ₅₀ contact (48h)	> 100 µg/bee
LD ₅₀ oral (96h)	> 120 µg/bee

Worms:

LC ₅₀	Earthworms	> 96.7 mg/kg soil
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ENVIRONMENTAL EFFECTS

Based on the active ingredient

Plants: Metabolism in plants and animals is by hydrolysis of the ester and nitrile groups, with some debromination occurring.

Persistence and degradability: In lab. soil, DT₅₀ < 1 day. Degraded by hydrolysis and debromination to less toxic substances such as hydroxybenzoic acid.

Bio-accumulative potential: Not determined.

Mobility in soil: 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. Triple rinse empty containers by inverting the empty container over the spray or mixing tank and allow draining 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 third of that of the container.

UCP BROMOXYNIL 225 EC

SAFETY DATA SHEET

Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. Destroy the container by perforating and flattening and dispose of through an approved waste dump site, incineration plant or recycling company. Observe all labelled safeguards until container is destroyed.

IBC: International Bulk Chemical.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Dangerous Goods
IMO: International Maritime Organization.
LD₅₀ 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.
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.

14. TRANSPORT INFORMATION

UN Number: 2903
Road Transport ADR / ORD:
 Class: 6.1
 Subsidiary class: 3
 Packaging group: II
 UN Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flashpoint not less than 23°C
Maritime Transport IMDG / IMO:
 Class: 6.1
 Subsidiary class: 3
 Packaging group: II
 UN Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flashpoint not less than 23°C
Marine pollutant (Y/N): Yes.
Air Transport IATA / ICAO:
 Class: 6.1
 Subsidiary class: 3
 Packaging group: II
 UN Proper Shipping Name: PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S., flashpoint not less than 23°C
Special / Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

END OF DOCUMENT

Compiled: June 2019
Reviewed: June 2019
Revision no.: (1)
Next revision date: June 2024

For detailed information on revisions, contact the Registration holder.

15. REGULATORY INFORMATION

Safety, health and environmental regulations / legislation for the mixture:
 OSHA 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: Packed in 5, 20, 25, 100 and 200 litres fluorinated plastic containers labelled according to South African regulations and guidelines.
Other hazard statements, abbreviations and explanations:
H315: Causes skin irritation.
H331: Toxic if inhaled.
H412: Harmful to aquatic life with long lasting effects.
IATA: International Air Transport Association.