

CARNIVORE® 420 EC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: CARNIVORE® 420 EC
Other identifier: 175 g/l MCPA-Isooctyl ester acid equivalent, 175 g/l Bromoxynil octanoate acid equivalent and 70 g/l Fluroxypyr-1-methylheptyl ester acid equivalent
Recommended use: Herbicide
Restrictions on use: Agriculture

Registration Holder: Winfield Solutions Registration Holdings (Pty) Ltd.
Co Reg No 2015/312008/07
PO Box 10413
Aston Manor, 1630, South Africa
(011) 3962233
(011) 3964666
Website: www.villacrop.co.za

Distributor: Villa Crop Protection (Pty) Ltd.
PO Box 10413
Aston Manor, 1630, South Africa
(011) 3962233
(011) 3964666
Website: 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
Health		
Oral	Acute Toxicity 4	H302
	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 4	H332
Reproduction Toxicity	Reproductive Toxicity 2	H361
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:

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
Harmful if inhaled
Suspected of damaging fertility or the unborn child

Label elements:



Signal word: Danger

Hazard statements:

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.
H332: Harmful if inhaled.
H361: Suspected of damaging fertility or the unborn child.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P203: Obtain, read and follow all safety instructions before use.
P261: Avoid breathing dust, mists, vapours or spray.

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P264+P265: Wash hands thoroughly after handling. Do not touch eyes.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release into the environment.

P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

P301+P316: IF SWALLOWED: Get emergency medical help immediately.

P302+P352+P317: IF ON SKIN: Wash with plenty of water and non-abrasive soap. Get medical help.

P304+P340+P317: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.

P305+P354+P338+P317: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.

P318: IF exposed or concerned, get medical advice.

P330: Rinse mouth.

P331: Do NOT induce vomiting.

P333+P317: If skin irritation or rash occurs: Get medical help.

P391: Collect spillage.

P405: Store locked up.

P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Toxicity:

Classification according to GHS: Category 4

Bromoxynil Octanoate (97%)	1689-99-2	28.40	Acute Toxicity 4 (H302) Skin Sensitization 1 (H317) Acute Toxicity 3 (H331) Reproductive Toxicity 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Emulsogen Cal 70	84989-14-0	7.13	Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic Chronic 3 (H412)
Aromatic Solvent	64742-94-5	33.55	Aspiration Toxicity 1 (H304)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Composition:

Chemical name	CAS	Conc. (m/v %)	Classification EC 1272/2008
MCPA iso-octyl ester	26544-20-7	32.09	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Fluroxypyr-1-methyl-heptyl ester (98%)	81406-37-3	11.13	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)

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.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. **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 or rash occurs.**

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. **Get medical help.**

Ingestion: **Get emergency medical help immediately** or call a poison control centre for treatment advice. **Do not induce vomiting.** Do not give anything by mouth to an unconscious person. If the person is alert, **rinse mouth** thoroughly with water.

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

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Anticipated delayed effects: Suspected of damaging fertility or the unborn child.

Most important symptoms / effects: None known.

Advice to physician: Contains petroleum distillate. Vomiting may cause aspiration pneumonia. 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: None known.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: May be fatal if swallowed and enters airways. Avoid contact with skin and eyes. **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: May be fatal if swallowed and enters airways. Avoid contact with skin and eyes. Harmful if inhaled. Ensure adequate ventilation during handling and use. **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.

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8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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: For most well-ventilated conditions, no respiratory protection should be needed. 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: Employees must wear chemical safety goggles 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 to dark amber liquid.

Odour: Aromatic odour.

pH (1% aqueous dilution): 3.5 – 4.5.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: > 110 °C.

Flammability: Not flammable.

Upper/lower explosion limits: Not available.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density: 1.135 g/ml.

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:

Oral LD₅₀ (24h) >491 mg/kg (rat)

Dermal LD₅₀ > 4450 mg/kg (rabbit)

Inhalation LC₅₀ (4h) > 1.98 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 classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Suspected of damaging fertility or the unborn child

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:

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Inhalation: Harmful if inhaled.

Ingestion: May be fatal if swallowed and enters airways. Harmful if swallowed

Eye: Causes serious eye damage.

Skin: Causes mild skin irritation. May cause an allergic skin reaction.

12. ECOLOGICAL INFORMATION

This product is expected to be very toxic to aquatic organisms with long lasting effects.

ECOTOXICITY DATA:

For Bromoxynil octanoate:

Fish:

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

Daphnia:

LC ₅₀ (48 h)		0.046 mg/l
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Algae:

EC ₅₀ (96 h)	<i>Scenedesmus subspicatus</i>	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
Sub-acute oral dietary LC ₅₀ (5 d)	Bobwhite quail	1315 mg/kg
	Mallard ducks	2150 ppm

Bees:

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

Worms:

LD ₅₀		96.7 mg/kg soil
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Plants: Metabolism in plants and animals is by hydrolysis of the ester and nitrile groups, with some debromination occurring.

For Fluroxypyr-meptyl:

Fish:

LC ₅₀ (96 h)	Rainbow trout	> 0.225 mg/l
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Daphnia:

LC ₅₀ (48 h)		> 0.183 mg/l
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Algae:

EC ₅₀ (96 h)	<i>Skeletonema costatum</i>	0.208 mg/l
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Birds:

Acute oral LD ₅₀	Bobwhite quail	> 2000 mg/kg
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Bees:

LD ₅₀ contact (48 h)		> 100 µg/bee
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Worms:

LD ₅₀ (14 d)	Earthworms	1000 mg/kg soil
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Plants: Hydrolysed to the parent acid, fluroxypyr.

For MCPA:

Birds:

Acute oral LD ₅₀	Bobwhite quail	377 mg/kg
Sub-acute dietary LC ₅₀ (5 d)	Bobwhite quail & Mallard ducks	> 5620 ppm

Fish:

	Rainbow trout	50-560 mg/l
	Bluegill sunfish	>150 mg/l
	Carp	317 mg/l
	Silversides	220 mg/l

Daphnia:

LC ₅₀ (48 h)		> 190 mg/l
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Bees:

LD ₅₀ oral & contact		> 200 µg/bee
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Worms:

LD ₅₀ (14 d)	<i>Eisenia foetida</i>	325 mg/kg dry soil
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Plants: In winter wheat, MCPA is hydroxylated at the methyl group with formation of 2-hydroxymethyl-4-chlorophenoxyacetic acid. This may be further degraded to the benzoic acid, prior to ring opening.

ENVIRONMENTAL EFFECTS:

For Bromoxynil:

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

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Bio-accumulative Potential: Not determined.

Mobility in soil: Not determined.

Other adverse effects: Not determined.

For Fluroxypyr:

Persistence and degradability: In laboratory soils, the ester is rapidly converted to fluroxypyr in all soil types, with DT₅₀ <7d. In soil/water slurries, DT₅₀ 2-5 h (pH 6-7, 22-24 °C. Total DT₅₀ for fluroxypyr-meptyl and fluroxypyr acid: soil, aerobic 23 d; aquatic, aerobic 14 d; aquatic, anaerobic 8 d; field dissipation 36.3 d.

Bio-accumulative Potential: Not determined.

Mobility in soil: Not determined.

Other adverse effects: Not determined.

For MCPA:

Persistence and degradability: In soil, degraded to 4-chloro-2-methylphenol, followed by ring hydroxylation and ring opening. DT₅₀ < 7 d after initial lag phase. Duration of residual activity in soil is c. 3-4 mo., following an application rate of 3 mg/ha.

Bio-accumulative Potential: Not determined.

Mobility in soil: Not determined.

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). 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. (MCPA-Isooctyl ester 273 g/l + Bromoxynil octanoate 255 g/l + Fluroxypyr-1-methylheptyl ester 100 g/l)

Maritime Transport IMDG/IMO:

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (MCPA-Isooctyl ester 273 g/l + Bromoxynil octanoate 255 g/l + Fluroxypyr-1-methylheptyl ester 100 g/l)

Marine Pollutant (Y/N): Yes

Air Transport IATA/ICAO:

Class: 9

Packaging group: III

UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (MCPA-Isooctyl ester 273 g/l + Bromoxynil octanoate 255 g/l + Fluroxypyr-1-methylheptyl ester 100 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: Packed in 750 millilitres; 1; 1,5; 3; 5; 7,5; 10 ; 15 ; 20 ; 25 and 50 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H315: Causes skin irritation

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H331: Toxic if inhaled.

H412: Harmful to aquatic life with long lasting effects.

IATA: International Air Transport Association.

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.

END OF DOCUMENT

Compiled: September 2019

Reviewed: September 2022

Revision no.: (2)

Next revision: September 2027

For detailed information on revisions, contact the Registration holder.