

FARM AG INTERNATIONAL (Pty) Ltd

P.O. Box 1523, Durban 4000 Co Reg. No. 2005/011761/07

Head Office : 61 Marshall Dr., Old Mill Industrial Park, Mount Edgecombe South Africa**Tel + 27 31 0033486 • Fax + 27 31 502 5825**

Product Name: BOREALIS 40 WG
Product Use: Herbicide
Creation Date: October 2016
Revision Date: April 21

24 Hr Emergency Number:**In case of Poisoning:**

Western Cape Poison Centre 0861555777

In case of Spillage:

HAZMAT: 0800 147 112

SECTION 2 - COMPOSITION / INFORMATION ON INGREDIENTS

Common Name: Carfentrazone
CAS No.: 128639-02-1
Chemical family: Triazolinone
Chemical Formula: C₁₅H₁₄Cl₂F₃N₃O₃ (Mol. wt.: 412.2)

Use: Post-emergence control in cereals of wide range of broad-leaved weeds in wheat and barley in the Western, Southern and Eastern Cape and as directed in orchards, vineyards and other crops

Formulation: Cafentrazone 400 g/kg
 Water Dispersible Granules

Hazardous ingredients: Carfentrazone ethyl

Symbol: Xi, N

Indication of danger: Irritant, Dangerous to the environment.

Risk phrases: R36, R50/53

SECTION 3 - HAZARD IDENTIFICATION**POTENTIAL HEALTH EFFECTS:**

Effects from overexposure may result from coming into contact with the eyes. Symptoms of overexposure include shaking, tearing of the eyes, and low body temperature.

Inhalation:

Product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Eye: This product is likely to be mechanically irritating. If exposure is minor or brief, no long term effects should result. However, if material is not removed promptly, scratches to surface of the eye may result with long term consequences.

Swallowed: Significant oral exposure is considered to be unlikely. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort

Environmental hazard: Toxic to aquatic organisms.

Physical and chemical hazards :

- Fire or explosion : May support combustion at elevated temperatures
 Burning and thermal decomposition may form toxic by-products

SECTION 4 - FIRST AID MEASURES AND PRECAUTIONS

Inhalation: First aid is not generally required. Move the affected person to the fresh air

If the person feels unwell :Call a doctor. If in doubt, contact a Poisons Information Centre or a doctor.

Skin Contact: Gently brush away excess particles. Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

Eye Contact: Quickly and gently brush particles from eyes. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water until the particles are removed, while holding the eyelid(s) open. Obtain medical attention if irritation persists, or if particles are lodged in surface of the eye(s). Take special care if exposed person is wearing contact lenses.

Ingestion: If product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or a doctor.

Do not induce vomiting. Do not give anything by mouth. Obtain medical attention. If the person is alert, rinse mouth thoroughly with water.

ADVICE TO MEDICAL DOCTOR:

Carfentrazone-ethyl has low oral, dermal and inhalation toxicity. It is minimally irritating to the eyes and non-irritating to the skin. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

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SECTION 5 - FIRE-FIGHTING MEASURES

Flash point: Combustible solid.

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire. This product, if scattered, may form flammable or explosive dust clouds in air.

Fire decomposition products from this product are likely to be toxic and corrosive if inhaled. Take appropriate protective measures.

Extinguishing Media:

In case of fire, use carbon dioxide, dry chemical, foam, water fog.

Not suitable extinguishing media :

Water (the product is dangerous for the environment)

Fire fighting:

If a significant quantity of this product is involved in a fire, call the fire brigade. Do not scatter spilled material with high pressure water jets.

Specific fire fighting methods :

Isolate fire area. Evacuate downwind.

Contain the extinguishing fluids by bunding (the product is hazardous for the environment)

Do not attempt to fight the fire without suitable protective equipment

Do not breathe fumes.

Protection of fire-fighters :

Self-contained breathing apparatus. Wear complete protective clothing

SECTION 6 - ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions :

Avoid contact with skin and eyes.

Do not attempt to intervene without a suitable protective equipment.

Environmental precautions : Do not allow product to spread into the environment.

Contain the spilled material by bunding (product is hazardous for the environment).

Methods for cleaning up :

- Recovery : Avoid creating or spreading dust

Spray with water.

Recover the product with absorbent material

- Neutralization : Absorb spillage with:

- earth or sand

Neutralize non-recoverable product with :

- a solution of caustic or soda ash, and an appropriate alcohol (methanol, ethanol or isopropanol)

- Cleaning/decontamination : Wash with plenty of water and detergent

- Disposal : Dispose of contaminated material at an authorized site.

SECTION 7 - HANDLING AND STORAGE REQUIREMENTS

Handling:

Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this MSDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

Storage:

Do not store near sources of sparks, flame or heat. Keep under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering measures : Ensure good ventilation of the work station

Extraction to remove dust at its source

Personal protective equipment :

- Respiratory protection : In the event of insufficient ventilation :

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Filtering respiratory protective device with a pesticide canister

- Hand protection : Nitrile-rubber protective

Neoprene rubber gloves

- Eye protection : If the dust is spread :

Safety spectacles with side shields

- Skin and body protection : Handling product in large quantities :

Impermeable suit (Hypalon, Tyvek, Saranex, PVC...).

Safety foot-wear

Hygiene measures : Always wash your hands after handling the product.

Do not eat, drink or smoke during use.

Always take a shower after work.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Granules.
Colour: Dark brown
Odour: Slightly musty
Flash point: 71.5 °C.
pH: 6.3
Wettability: 32s
Persistent foam: 23ml

SECTION 10 - STABILITY AND REACTIVITY**Stability :** Stable at ambient temperature and under normal conditions of use**Hazardous reactions :**

- Conditions to avoid : May decompose :

- on heating

- Hazardous decomposition products : On combustion or on thermal decomposition (pyrolysis) releases :

Carbon oxides (CO, CO₂), Nitrogen oxides, Hydrogen fluoride, Hydrochloric acid**SECTION 11 - TOXICOLOGICAL INFORMATION****Acute toxicity :****Oral LD₅₀ (rat) :** > 5000 mg/kg**Dermal LD₅₀ (Rat) :** > 5000 mg/kg**Inhalation LC₅₀ /4h (rat) :** > 5.72 mg/l**Skin contact:** Not irritating**Eye contact:** Mild irritating**Sensitization:** Not a skin sensitizer**SECTION 12 - ECOLOGICAL INFORMATION****Degradability:**

Field studies show that Carfentrazone-ethyl has low mobility in soil.

Persistence: Half life in soil: <1.5 d

Half life in water: 8.3 d (pH = 5)

Bioaccumulation:

Octanol/water partition coefficient : Carfentrazone-ethyl: 3.36

Bioconcentration factor: Carfentrazone-ethyl : BCF: 159

ECOTOXICOLOGY:**Aquatic toxicity:**

Toxic to aquatic organisms. Bioconcentration factor in fish of 167. Risk of bioaccumulation in an aquatic species is low.

Log Octanol/Water Partition Coefficient: 3.36

Birds: LD₅₀ bobwhite quail: >1000mg/kg**Fish:** LC₅₀ fish: 1.6-43mg/L**Bees:** LD₅₀ >35µg/bee**Daphnia:** EC₅₀ 9.8mg/L

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SECTION 13 - DISPOSAL CONSIDERATION**Pesticide and container disposal:****Prohibition** : Discharging waste into rivers and drains is prohibited**Destruction/Disposal** : Dispose of in accordance with relevant local regulations.

Incinerate at a licensed installation

Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers.

SECTION 14 - TRANSPORT INFORMATION**UN NUMBER:** 3077**Road Transport ADR/RID:**

Class: 9

Packaging group: III

Shipping name: Environmental hazard substance, SOLID, N.O.S. (Carfentrazone-ethyl)

Maritime Transport IMDG/IMO:

Class: 9

Packaging group: III

Shipping name: Environmental hazard substance, SOLID, N.O.S. (Carfentrazone-ethyl)

Considered a marine pollutant.**SECTION 15 - REGULATORY INFORMATION****Symbol** : Xi, N.**Indication of danger** : Irritant, Dangerous for the environment.**Risk phrase(s):****R 36** Irritating to eyes**R 50/53** Very toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment.**Safety phrases:****S 1/2** Keep locked up and out of reach children.**S 13** Keep away from food, drink and animal feedingstuffs.**S 24/25** Avoid contact with skin and eyes.**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.**S 46** If swallowed, seek medical advice immediately and show this container or label.**S 56** Dispose of this material and its container to hazardous or special waste collection point.**S 62** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.**SECTION 16 - OTHER INFORMATION****Packaging:**

Packed in 50g, 100g, 200g, 250g and 500g HDPE plastic containers or double lined foil bags and labelled according to South African regulations and guidelines.

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 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.