

BENON 300 SC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: BENON 300 SC
Other identifier: Boscalid 100 g/l + Dithianon 200 g/l
Recommended use: Fungicide
Restrictions on use: Agriculture, Small Scale Farming

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

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 Tox. 4	H302
Inhalation	Acute Tox. 4	H332
Environment		
Aquatic chronic	Aquatic Chronic 2	H411

The most important adverse effects:

Physiochemical effects:

None known.

Human health effects:

Harmful if swallowed.

Harmful if inhaled.

Label elements:



Signal word: Warning

Hazard statements:

H302: Harmful if swallowed.

H332: Harmful if inhaled.

H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:

P261: Avoid breathing mists or spray.

P264: Wash hands and face thoroughly after handling.

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

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

P273: Avoid release to the environment.

P301+P317: IF SWALLOWED: Get medical help.

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

P317: Get medical help.

P330: Rinse mouth.

P391: Collect spillage.

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

Special labelling of certain mixtures:

None known.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 4

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Boscalid	188425-85-6	10%	Aquatic Chronic 2 (H411)
Dithianon	3347-22-6	20%	Acute Tox. 4 (H302) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Monoethyl ene Glycol	107-21-1	< 10%	Acute Tox. 4 (H302)
1,2-benzisothiazolin-3-one (Biocide)	2634-33-5 and 1310-73-2	< 1%	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400) Skin Corr. 1A (H314)

4. FIRST AID MEASURES

Remove the victim from the area of exposure. Wash off remaining material with plenty of water. In the event of

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any complaints or symptoms, avoid further exposure. Consult a doctor if symptoms persists.

Inhalation: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.

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. Lift eyelids to facilitate irrigation. If present, remove contact lenses and continue rinsing. Seek medical attention if irritation persists.

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.

Anticipated acute effects:

Harmful if swallowed.

Harmful if inhaled.

May be harmful in contact with skin.

Causes eye irritation.

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: Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam.

Unsuitable Extinguishing Media: Water.

Use a water only to cool heated containers.

Specific hazards: Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of 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. Keep upwind. 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: Avoid contact with eyes. Do not breathe in spray mist or fumes. 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 to be toxic to aquatic organisms and causes 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 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. Avoid excess heat. Not to be stored next to foodstuffs,

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feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
1,2-benzisothiazolin-3-one (Sodium hydroxide)	2 mg/m ³	TWA STEL	Occupational Health and Safety Act, 1993

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.

Hand Protection: The use of chemically protective 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: Employee must wear appropriate protective clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance.

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 viscous liquid, suspension concentrate.

Odour: Faint.

pH (1% aqueous dilution): 5.5 to 7.5 @ 25 °C.

Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not available.
Flammability: Not available.
Upper/lower explosion limits: Not available.
Vapour Pressure (mm Hg): Not available.
Relative Vapour Density: Not available.
Density: 1.119
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: None expected under normal use.

Conditions to Avoid: Extreme heat or exposure to flames.

Incompatible Materials: Refer to label.

Hazardous Decomposition Products: Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of combustion.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Based on experimental data

Oral LD₅₀ rat > 1587.41 mg/kg

Dermal LD₅₀ rabbit > 5000 mg/kg

Inhalation LC₅₀ rat 1.63 mg/l

Skin Irritation: Not classified.

Eye Irritation: Not classified.

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: Not classified.

Chronic Effects: Not classified

POTENTIAL ADVERSE EFFECTS:

Inhalation: Harmful if inhaled.

Skin contact: Not classified.

Eye contact: Not classified.

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Ingestion: Harmful if swallowed.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

ECOTOXICITY DATA

Boscalid:

Fish:

LC₅₀ (96 h) Rainbow trout > 2.7 mg/l.

Daphnia:

EC₅₀ (48 h) > 5.33 mg/l.

Algae:

E_rC₅₀ (96 h) Green algae 3.75 mg/l.

Birds:

LD₅₀ Bobwhite quail > 2000 mg/kg b.w.

Worms:

LC₅₀ *Eisenia foetida* >1000 mg/kg.

Dithianon:

Fish:

LC₅₀ (96 h) Rainbow trout 44 µg/l.

Daphnia:

EC₅₀ (48 h) 260 µg/l.

Algae:

EC₅₀ (72 h) Green algae 90 µg/l.

Birds:

Acute oral LD₅₀ Mallard ducks > 2000 mg/kg b.w./day

Bobwhite quail 309 mg/kg b.w./day

Dietary LC₅₀ (8 d) Mallard ducks > 5000 mg/kg feed

Bobwhite quail > 5200 mg/kg feed

Bees:

LD₅₀ contact > 100 mg/bee.

Worms:

LC₅₀ (14 d) > 578.4 mg/kg.

Plants:

Boscalid – Hydroxylation in the biphenyl and pyridine rings, and cleavage reactions in both rings, were observed. However, unchanged parent formed the major part of the residue. **Dithianon** – Dithianon was identified as the major component of the residue in all plants/plant parts investigated. The parent compound is further metabolised to a large number of polar, minor unidentified components.

Animals:

Boscalid – Hydroxylation of the biphenyl ring, subsequent glucuronidation and sulfatation reactions. The systemically available portion of a.i. is rapidly and extensively metabolised, with rapid excretion, mainly via faeces. **Dithianon** – Dithianon was detected in only trace amounts in tissues and/or excreta. It is rapidly and

intensively metabolised by a number of degradation processes; the key degradation steps are assumed to be oxidation / reduction and reaction with nucleophiles, commonly thiols, in the form of proteins and peptides such as glutathione. These reactions result in a huge number of individual metabolites. No individual metabolite has been identified; all were present in minor amounts.

ENVIRONMENTAL EFFECTS:

Persistence and degradability: Boscalid – Moderate degradation behaviour in soil; soil DT₅₀ 108 d to > 1 y (lab, aerobic conditions, 20 °C); field DT₅₀ 28 d to c. 200 d. Good degradation in natural water/sediment systems. **Dithianon** – Soil DT₅₀ (lab, 20°C, 41-45% MWHC) 2.6-37.6 d; soil DT₉₀ (lab, 20 °C; 41-45% MWHC) 8.5-125 d; Water DT₅₀ (pH 7, 20 °C) 0.6 d; K_{oc} 1167-6004 mg/g; air DT₅₀ < 6.3 h.

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. (**Boscalid** 100 g/l + **Dithianon** 200 g/l)

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Maritime Transport IMDG/IMO:
 Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (**Boscalid** 100 g/l + **Dithianon** 200 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. (**Boscalid** 100 g/l + **Dithianon** 200 g/l)
Special/Environmental Precautions: Wedge drums tightly to avoid movement.
Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not available.

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: February 2024
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Next revision date: February 2029

For detailed information on revisions, contact the Registration holder.

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 1, 2, 5, 10, 20, 25 and 50 litres plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H314: Causes severe skin burns and eye damage.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H400: Very toxic to aquatic life.

H410: Very toxic to aquatic life with long lasting effect.

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