

UNIVERSAL COMBO 160 WDG

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: COMBO 160 WDG
 Fungicide
UN No.: 3077
Company: 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:
 Bateleur: +27 83 1233 911 or +27 860 333 911
 (Client: Villa Crop Protection)

Poisoning:
 Griffon Poison Information Centre +27 82 446 8946
 Western Cape Poisons Tel. Service +27 861 555 777
 Tygerberg Hospital +27 21 931 6129

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common name: 1) Dithianon
 2) Trifloxystrobin
Chemical Name: 1) 5,10-dihydro-5,10-dioxonaphtho[2,3-b]-1,4-dithiine-2,3-dicarbonitrile; 2,3-dicyano-1,4-dithia-anthraquinone (IUPAC)
 2) methyl (E)-methoxyimino-{(E)- α -[1-(α,α,α -trifluoro-m-tolyl)ethylideneaminoxy]-o-tolyl}acetate. (IUPAC)
CAS No.: 1) [3347-22-6]
 2) [61213-25-0]
Chemical Family: 1) quinone
 2) oximinoacetate
Chemical Formula: 1) C₁₄H₄N₂O₂S₂
 2) C₂₀H₁₉F₃N₂O₄
Molecular weight: 1) Mol. wt.: 296.3
 2) Mol. wt. 408.4
Mode of action: 1) Foliar fungicide with protective and, to some extent, curative action
 2) Mesostemic, broad-spectrum fungicide with mainly preventive activity.
Formulation: (Dithianon + Trifloxystrobin) 160 WDG
 Water dispersing granule

Hazardous ingredients of toxicological concern:

Component	Content (g/kg)
Dithianon	120
Trifloxystrobin	40

Symbol: N, X_n, X_i
Indication of danger: Harmful to aquatic organisms.
Risk phases: R 20/21, 52

3. HAZARD IDENTIFICATION

Toxicity class: WHO III. Slightly hazardous. Harmful by inhalation. Harmful if swallowed. Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES AND PRECAUTIONS

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.

Ingestion: Rinse mouth with water. Give plenty of water to drink. Seek immediate medical assistance. Do not give anything by mouth to an unconscious person. Do not induce vomiting.

Eye contact: Irrigate with copious quantities of water for at least 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Skin contact: Remove contaminated clothing.

Wash contaminated skin with plenty of soap and water. Seek medical attention if irritation persists. Contaminated clothing should be washed before re-use.

Inhalation: Keep person calm and move them to fresh air. Call a doctor immediately if necessary.

NOTE TO PHYSICIAN

There is no specific antidote if this product is ingested. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability: Not flammable.

Specific hazards: Carbon monoxide, hydrogen chloride, hydrogen cyanide, hydrocyanic acid, Carbon dioxide, nitrogen oxides, organochloric compounds, sulphur oxides.

Firefighting further advice: Fire-fighters to wear self-contained breathing apparatus and chemical-protective clothing. In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Suitable extinguishing media: Water spray, Foam, carbon dioxide, dry extinguishing media.

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6. ACCIDENTAL RELEASE MEASURES (Spillage)

Personal precautions: Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Remove contaminated clothes, undergarments and shoes immediately.

Environmental precautions: Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

Methods for cleaning up or taking up: **For small amounts:** Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder).

For large amounts: Dike spillage. Pump off product. Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labelled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Incinerate or take to a special waste disposal site in accordance with local authority regulations.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion: Avoid dust formation. Dust can form an explosive mixture with air. Prevent electrostatic charge. Source of ignition should be kept well clear.

Storage: Store in the closed original container in dry, cool, well-ventilated area out of direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight. Store protected against freezing.

Storage stability: Stable for at least 2 years under normal conditions of warehouse storage.

Protect from temperatures above: 40°C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time. Protect from frost and do not store for prolonged periods in direct sunlight.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Personal protective equipment:

Respiratory protection: Respiratory protection in case of vapour/aerosol release. Wear respiratory protection if ventilation is inadequate. Particle filter with medium efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P2 or FFP2).

Hand protection: Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact

(Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other.

Eye protection: Tightly fitting safety goggles (splash goggles) (e.g. EN 166).

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. apron, protection boots, chemical-protection suit (according to DIN-EN 465).

General safety and hygiene measures: The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Avoid contact with the skin, eyes and clothing. Wearing of closed work clothing is recommended. Take off immediately all contaminated clothing. Store work clothing separately. Keep away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Hands and/or face should be washed before breaks and at the end of the shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Colour:	Brown Columnar granule.
Physical State:	Water dispersible granule.
Odour:	Faintly aromatic.
Density:	1.67 g/cm ³ (25°C).
Flash point:	N/A.
Explosion hazard:	Not explosive.
pH:	4.0 to 7.0.

10. STABILITY AND REACTIVITY

Emulsion Stability: Stable for at least 2 years under normal conditions of warehouse storage.

Substances to avoid: Excessive heat and freezing.

Hazardous Decomposition: Not known.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Acute Oral (RAT) : > 500 - < 2000 mg/kg.

Acute Dermal (rat) : >2000 mg/kg.

Acute Inhalation (rat): 1.63 mg/l air.

Eye Irritation: Slightly irritant.

Skin Irritation: Slightly irritant.

Sensitization: No skin sensitization.

Toxicity class: WHO (ai.) III.

12. ECOLOGICAL INFORMATION

Dithianon: In animals: **Dithianon** was detected in only trace amounts in tissues and/or excreta. It is rapidly and intensively metabolised by a number of degradation

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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.

In plants: the parent compound is metabolised to a large number of polar, minor unidentified components.

In the soil: Freundlich K 18–56 mg/kg in soils (o.c. 0.7–2.6%, pH 4.8–6.6).

Trifloxystrobin: In animals: Rapidly absorbed (60% in 48 h) and rapidly and extensively excreted (up to 96% in 48 h) in urine and faeces. Extensively and rapidly metabolised, by O-demethylation, oxidation and conjugation, and quickly and completely eliminated from the body.

In plants: Metabolic profile is similar for a range of crops. Based on wheat, apple, cucumber and sugar beet metabolism data, **trifloxystrobin** is considered as the residue of concern for food and feed commodities of plant origin. In the soil: Dissipates rapidly from soil and surface water. Soil DT₅₀ 4.2–9.5 d. K_{oc}1642–3745. No leaching potential. In water, DT₅₀ 0.3–1 d, DT₉₀ 4–8 d.

ECOTOXICOLOGY:

Birds:

Trifloxystrobin: LD₅₀ for bobwhite quail >2000, mallard ducks >2250 mg/kg

LC₅₀ for bobwhite quail and mallard ducks >5050 ppm

Dithianon: Acute oral LD₅₀ (14 d) for male quail 430 & female quail 290 mg/kg.

Fish:

Trifloxystrobin: Toxic to aquatic organisms

LC ₅₀ (96 hours): for rainbow trout	0.015	mg/ℓ
Bluegill sunfish	0.054	mg/ℓ

Dithianon: Toxic to fish

LC₅₀ (96 h) for common carp 0.1 mg/ℓ.

Bees: Trifloxystrobin: Not hazardous to bees

LD₅₀: (oral and contact) >200 µg/bee

Dithianon: Toxic to bees .

LD₅₀ (48 h) (Contact) >0.1 mg/bee.

Worms:

Trifloxystrobin: LC₅₀ *Scenedesmus subspicatus* 0.0053 mg/ℓ.

Dithianon: LC₅₀: (7 d) 588.4 mg/kg soil, (14 d) 578.4 mg/kg soil

Daphnia:

Trifloxystrobin: Very toxic to Daphnia. LC₅₀: (48 h) 0.016 mg/ℓ

Dithianon:	EC ₅₀ :	(96 h)	12	mg/ℓ.
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Other beneficial species: Under conditions of good agricultural practice applications in the field, does not affect non-target arthropod populations.

13. DISPOSAL CONSIDERATION

Pesticide disposal: It is the responsibility of waste generator to determine the toxicity of and physical properties of material generated to determine the proper methods in compliance with applicable regulations. Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product cannot be reused or reprocessed. Never pour untreated waste or surplus products 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.

Container disposal: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

Open dumping or burning of this pesticide is prohibited. Never pour untreated waste or surplus products 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.

Emptied containers/bags retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Empty the container/bag of excess product into the mixing tank or spray tank of the applicator. Destroy the emptied containers/bags by perforation and flattening. Bury in an approved dumpsite. Do not re-use the empty container/bag for any other purpose. Comply with any local legislation applying to disposal.

Prevent contamination of food, feedstuffs, drinking water and eating utensils.

14. TRANSPORT INFORMATION

UN NUMBER: 3077

Road Transport ADR/RID: Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Solid, N.O.S.
(Trifloxystrobin + Dithianon) 160g/kg

Maritime Transport IMDG/IMO: Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Liquid, N.O.S.
(Trifloxystrobin + Dithianon) 160g/kg

Air Transport ICAO/IATA: Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Liquid, N.O.S.
(Trifloxystrobin + Dithianon) 160g/kg

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MARINE POLLUTANT (Harmful to aquatic organisms).

15. REGULATORY INFORMATION

- Symbol:** N, X_n Xi
Indication of danger: Irritant, Harmful and Environmentally Hazardous Substance.
Risk phrase(s):
R 20/21 Harmful by inhalation and in contact with skin.
R 52 Harmful to aquatic organisms.
Safety phrases:
S 2 Keep out of the reach of children.
S 13 Keep away from food, drink and animal feeding stuffs.
S 20/21 When using do not eat, drink or smoke.
S 30 Do not empty into drains.
S 25 Avoid contact with eyes.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

NOTICE: The information herein is presented in good faith and believed to be accurate as of the issue or revision date shown below. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the user's responsibility to ensure that its activities comply with government laws and regulations.

16. OTHER INFORMATION

Packaging: Packed in 500 g, 1, 2, 5, 10, 15, 20, 25 and 50 Kg plastic containers/bags and labelled according to the 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 neither 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.

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