

# UNIVERSAL DINIL 500 SC

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** DINIL 500 SC  
 Fungicide

**UN No.:** 3082

**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](http://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. COMPOSITION/INFORMATION ON INGREDIENTS

**Common name:** 1) Dithianon  
 2) Pyrimethanil

**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) N-(4,6-dimethylpyrimidin-2-yl)aniline (IUPAC)

**CAS No.:** 1) [3347-22-6]  
 2) [53112-28-0]

**Chemical Family:** 1) quinone  
 2) anilinopyrimidine

**Chemical Formula:** 1) C<sub>14</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>S<sub>2</sub>  
 2) C<sub>12</sub>H<sub>13</sub>N<sub>3</sub>

**Molecular weight:** 1) Mol. wt.: 296.3  
 2) Mol. wt. 199.3

**Mode of action:** 1) Foliar fungicide with protective and, to some extent, curative action  
 2) Contact fungicide with translaminar activity, providing both protective and curative efficacy.

**Formulation:** (Pyrimethanil + Dithianon) 50 % SC  
 Suspension concentrate

## Hazardous ingredients of toxicological concern:

Component	Content (%)
Pyrimethanil	±25 %
Dithianon	±25 %
Inerts	±10 %
Symbol:	N, X <sub>n</sub> , X <sub>i</sub>
Indication of danger:	Toxic to aquatic organisms, Harmful and irritant.
Risk phases:	R 20/21, 51

## 3. HAZARD IDENTIFICATION

**Health and Environmental:** Harmful by inhalation and might cause slightly skin and eye irritation.  
 Toxic to aquatic organisms.

## 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:** Expected to release oxides of Nitrogen and carbon if heated.

**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.

## UNIVERSAL DINIL 500 SC

## MATERIAL SAFETY DATA SHEET

### 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:** No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

**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. Stable in water within the relevant pH range and stable for 14 d at 54°C

**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:** Dark blue-green viscous liquid.  
**Physical State:** Suspension concentrate.  
**Odour:** no specific odour.  
**Density:** 1.08 g/cm<sup>3</sup> (25°C).  
**Flash point:** N/A.  
**Explosion hazard:** Not explosive.  
**pH:** 5.8.  
**Density:** 1.145.

### 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 Toxicity (RAT):** LD<sub>50</sub> = 316 - 348 mg/kg (tech.)

**Acute Dermal Toxicity (rat):** LD<sub>50</sub> = >2000 mg/kg (tech.)

**Acute Inhalation Toxicity (rat):** LC<sub>50</sub> rats 0.33 mg/l air

**Primary Eye Irritation:** Slightly irritant.

**Primary Skin Irritation:** Slightly irritant.

**Dermal Sensitization:** No skin sensitization.

**Toxicity class:** WHO (ai.) III

# UNIVERSAL DINIL 500 SC

# MATERIAL SAFETY DATA SHEET

## 12. ECOLOGICAL INFORMATION

**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 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).

**In animals:** Rapidly absorbed, extensively metabolised and rapidly excreted in all species examined. No evidence of accumulation, even on repeated dosing. Metabolism proceeds by oxidation to phenolic derivatives which are excreted as glucuronide or sulfate conjugates.

**In plants:** Little metabolism occurs in fruit; residues at maturity consist essentially of unchanged parent compound only. For this reason, a crop residue monitoring method has been developed for the direct determination of pyrimethanil itself.

**In the soil:** DT<sub>50</sub> in laboratory studies 27–82 d; field studies indicate rapid degradation, DT<sub>50</sub> 7–54 d; 2-amino-4,6-dimethylpyrimidine is the main soil metabolite. K<sub>oc</sub> 265–751. Low potential for leaching to groundwater; field studies show minimal movement of pyrimethanil into deeper soil layers. Pyrimethanil disappears rapidly from surface water and moderately adsorbs to the sediment, from which it is further degraded.

### ECOTOXICOLOGY:

#### Bird:

**Pyrimethanil:** LD<sub>50</sub>: for mallard ducks & bobwhite quail >2000 mg/kg.

LC<sub>50</sub> (5 d) for mallard ducks & bobwhite quail >5200 mg/kg diet.

**Dithianon:** Acute oral LD<sub>50</sub> (14 d) for male quail 430 & female quail 290 mg/kg.

#### Fish:

**Pyrimethanil:** Toxic to fish

LC<sub>50</sub> (96 h) for mirror carp 35.4, rainbow trout 10.6 mg/l

**Dithianon:** Toxic to fish

LC<sub>50</sub> (96 h) for common carp 0.1 mg/l.

#### Bees:

**Pyrimethanil:** LC<sub>50</sub> (oral and contact) >100 µg/bee

**Dithianon:** Toxic to bees

LD<sub>50</sub> (48 h) (Contact) >0.1 mg/bee

#### Worms:

**Pyrimethanil:** LC<sub>50</sub> 14 d) for earthworms 625 mg/kg dry soil.

**Dithianon:** LC<sub>50</sub>: (7 d) 588.4 mg/kg soil, (14 d) 578.4 mg/kg soil

**Daphnia:** **Pyrimethanil:** LC<sub>50</sub> (48 h) 2.9 mg/l

**Dithianon:** EC<sub>50</sub>: (96 h) 12 mg/l

**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.

**TRIPLE RINSE** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain 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 minimum of a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dump site. Prevent contamination of food, feedstuffs, drinking water and eating utensils.

Comply with local legislation applying to waste disposal.

## 14. TRANSPORT INFORMATION

**UN NUMBER:** 3082

**Road Transport ADR/RID:** Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Liquid, N.O.S. (Pyrimethanil + Dithianon) 50% SC

**Maritime Transport IMDG/IMO:** Class: 9

Packaging group: III

Shipping name: Environmentally Hazardous Substance, Liquid, N.O.S. (Pyrimethanil + Dithianon) 50 % SC

# UNIVERSAL DINIL 500 SC

# MATERIAL SAFETY DATA SHEET

## Air Transport ICAO/IATA:

Class: 9  
 Packaging group: III  
 Shipping name: Environmentally Hazardous  
 Substance, Liquid, N.O.S.  
**(Pyrimethanil + Dithianon) 50 % SC**

## MARINE POLLUTANT (Harmful to aquatic organisms)

### 15. REGULATORY INFORMATION

**Symbol:** N, X<sub>n</sub> Xi

**Indication of danger:**

Toxic by inhalation, may cause slightly skin and eye irritation and it is harmful to aquatic organisms.

**Risk phrase(s):**

**R 20/21** Harmful by inhalation and in contact with skin.

**R 51** Toxic 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 200, 250, 500 ml, 1, 2, 5, 10, 20 and 25 litres plastic containers, 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 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.

## END OF DOCUMENT

**Compiled:** November 2013

**Reviewed:** March 2019

**Revision no.:** (2)

**Next revision date:** March 2024

For detailed information on revisions, contact the Registration holder.