

# VILLA NUGGET 660 WDG

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** NUGGET 660 WDG  
Fungicide

**Company:** Villa Crop Protection (Pty) Ltd.  
PO Box 10413,  
Aston Manor, 1630, South Africa

**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4777  
**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:** Dithianon  
**Chemical Name:** 5,10-dihydro-5,10-dioxonaphtho[2,3-b]-1,4-dithiine-2,3-dicarbonitrile; 2,3-dicyano-1,4-dithia-anthraquinone (IUPAC)  
**CAS No.:** [3347-22-6]  
**Chemical Family:** quinone  
**Chemical Formula:** C<sub>14</sub>H<sub>4</sub>N<sub>2</sub>O<sub>2</sub>S<sub>2</sub> (Mol. wt.: 296.3)  
**Formulation:** Dithianon 660 WDG  
Water Dispersible Granule  
**Use / Mode of Action:** Foliar fungicide with protective and, to some extent, curative action.

**Hazardous Ingredient:**  
 Dithianon .....± 70 %  
 Inerts.....± 30 %

**SYMBOLS:** Xi, Xn, N  
**RISK-PHRASE(S):** R22, 23, 36/37, 41, 43, 50/53

## 3. HAZARD IDENTIFICATION

**Toxicity class:**  
WHO (a.i.) III; EPA (formulation) III.

Severe eyes irritant.

Irritant to respiratory system.  
Toxic to aquatic organisms.

## 4. FIRST AID MEASURES AND PRECAUTIONS

Remove the victim from the area of exposure. Remove all contaminated clothing. Wash off remaining material with plenty of water. Do not allow smoking or eating. In the event of any complaints or symptoms, call a doctor or take them to a hospital.

**Inhalation:** Immediately remove source of contamination or move victim to fresh air. Keep person warm and at rest. Seek medical advice immediately.

**Skin contact:** Remove contaminated clothing, shoes and leather goods immediately. Gently wipe off excess chemical. Wash skin gently and thoroughly with non-abrasive soap or mild detergent and large amounts of water until no evidence of chemical remains (approximately 15 to 20 minutes). Seek medical advice if necessary.

**Eye contact:** Flush eyes immediately with large amounts of gently flowing cold water or normal saline solution, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15 to 20 minutes). If irritation persists, get medical attention.

**Ingestion:** Have victim rinse mouth thoroughly with water. Drink promptly two glasses of water. **Do not induce vomiting. Seek medical advice immediately.**

**Unconsciousness:** If danger of loss of consciousness, place a person in recovery position. Apply artificial ventilation if necessary, but care must be taken to avoid contamination of the first aider.

**Advice to physician:**  
Treat symptomatically and give supportive therapy. If the product has been swallowed, gastric lavage with proper laryngeal control may be necessary. For ingestion of small quantities active charcoal as an absorbent in a dosage of 30 grams in 100 ml of water may be considered. Maintain the ventilation and oxygen therapy as required. If symptomatic therapy is indicated for control of restlessness, anxiety or convulsions, then Diazepam is recommended as the drug of choice. Contact local Poison Centre if needed.

## 5. FIRE FIGHTING MEASURES

### Fire/Explosion hazard:

Non-Flammable.

**Flash point:** N/A

### Extinguishing agents:

Extinguish fires with carbon dioxide, dry powder, alcohol-resistant foam, sand and earth. Confine the use of water to cooling of fire exposed stock.

### **Possible harmful fumes in a fire:**

Carbon monoxide, nitrogen oxides, sulphur oxides. Avoid breathing smoke and fumes.

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**Firefighting:**

Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a recommended extinguishing agent for the type of surrounding fire.

Fight fire from maximum distance and use unmanned hose holder or monitor nozzles. Contain fire control agents for later disposal. Avoid inhaling hazardous vapours and fumes from burning materials. Keep upwind. Remove container from fire area if possible and without risk. Water can be used to cool unaffected containers but must be contained for later disposal.

Dyke fire control water for later disposal. Do not scatter the material. Avoid pollution of waterways.

Do not use high volume water jet, due to contamination risk. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

**Personal protective equipment:**

Fire may produce irritating or poisonous vapours or gases (oxides of chlorine and sulphur) or other products of combustion. Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES (Spillage)**

**Personal precautions:**

Avoid contact with skin and eyes. Do not breathe in fumes. For personal protection see Section 8.

**Environmental precautions:**

**Occupational spill:**

Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.

**For spills:** Soak up with absorptive material such as damp earth or sand or other suitable non-combustible absorbent material. Place the material into a clean, dry container and cover for subsequent disposal. In situations where product comes in contact with water, contain contaminated water for later disposal. Prevent material from spreading by damming in with absorptive material. Do not flush spilled material into drains. Keep spectators away and upwind.

To decontaminate spill area, tools and equipment, wash with a suitable solution (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Label drums with its content and dispose it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

Do not get water inside containers.

**7. HANDLING AND STORAGE REQUIREMENTS**

**Handling:**

Harmful if swallowed. Avoid inhalation and contact with eyes and skin. Use with adequate ventilation. Do not

handle broken packages without protective equipment. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if the product gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. Seek medical advice.

Do not apply directly to areas where surface water is present, or to intertidal areas below the mean high water mark. Water used to clean equipment must be disposed of correctly to avoid contamination.

Worker should shower at the end of each work day. Launder all clothing before it is re-used again.

**Storage:**

Protect from temperatures above 40 °C. Store in its original container in dry, cool, well-ventilated area. Avoid excess heat. Not to be stored next to foodstuffs and water supplies. Keep out of reach of children, uninformed persons and animals. Do not contaminate other pesticides and fertilizers.

**Storage stability:**

Stable for a period of 2 years under normal warehouse conditions.

**8. EXPOSURE CONTROL/PERSONAL PROTECTION**

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. Ensure that control systems are properly designed and maintained. Comply with occupational safety, environmental, fire, and other applicable regulations.

**PERSONAL PROTECTIVE EQUIPMENT:**

**Respirator:**

An approved full-face respirator suitable for protection from spray or mists of pesticides is required. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.

**Clothing:**

Employee must wear appropriate protective (impervious) clothing; boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

**Gloves:**

Employee must wear appropriate chemical resistant protective gloves to prevent contact with this substance.

**Eye protection:**

The use of chemical resistant goggles or a face shield.

**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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Water dispersal granule  
**Colour:** Brown  
**Density:** 0.528 to 0.6 g/cm<sup>3</sup> at 20°C  
**Flash point:** N/A  
**Flammability:** Non-Flammable  
**pH of 1%:** 5.0 to 8.0  
**Vapour pressure:** N/A  
**Wettability:** 60s max.

## 10. STABILITY AND REACTIVITY

**Stability:** Stable at normal temperatures and storage conditions.  
**Condition to avoid:** Extreme heat and fire. Protect from temperatures above 40 °C  
**Material to avoid:** Oxidising agents  
**Hazardous decomposition products:**  
 None provided the product is correctly handled and store.  
**Hazardous Polymerisation:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:** Female rats 27, Male rats 430 mg/kg  
**Acute dermal LD<sub>50</sub>:** >4000 mg/kg  
**Acute inhalation LC<sub>50</sub>:** >2.0 mg/ℓ (4h)  
**Acute skin irritation:** Non-irritant  
**Acute eye irritation:** Severe eye irritant  
**Sensitization:** None  
**ADI:** JMPR) 0.01 mg/kg b.w. [1992] (tech.)

## 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).

### ECOTOXICOLOGY:

#### Birds:

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

#### Fish:

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

#### Daphnia:

LC<sub>50</sub> (24 h) 2.4 mg/ℓ.

#### Bees:

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

#### Earthworms:

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

#### Algae:

EC<sub>50</sub>: (96 h) 12 mg/ℓ

## 13. DISPOSAL CONSIDERATION

### Pesticide disposal:

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 No.:** 3077

### Road Transport ADR/IRD:

Class: 9  
 Shipping name: Environmentally Hazardous Substance, solid, N.O.S + Marine pollutant  
**Dithianon 660 WDG**

### Maritime Transport IMDG/IMO:

Class: 9  
 Packing group: III  
 Shipping name: Environmentally Hazardous Substance, solid, N.O.S + Marine pollutant  
**Dithianon 660 WDG**

## 15. REGULATORY INFORMATION

**Symbol:** Xi, Xn, N

**Indication of danger:** Irritant, Harmful and Environmentally Hazardous Substance

### Risk phrases:

**R 22** Harmful if swallowed.

**R 23** Toxic by inhalation.

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**R 36/37** Irritating to eyes and respiratory system  
**R41** Risk of serious damage to eyes  
**R43** May cause sensitization by skin contact  
**R 50/53:** Very toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

**S 1/2** Keep locked up and out of the reach of children.  
**S 3/7/9** Keep container tightly closed in cool, well ventilated place  
**S 13** Keep away from food, drinks and animal feeding stuffs.  
**S 15** Keep away from heat.  
**S 26** In case of contact with eyes, rinse immediately with plenty of water  
**S 29** After contact with skin wash immediately with water  
**S 29/35** Do not empty into drains; dispose of this material and its container in a safe way  
**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.  
**S 45** In case of an accident or if you feel unwell, seek for medical advice  
**S 60** This material and its container must be disposed of as hazardous waste.  
**S 61** Avoid release to the environment. Refer to special instructions/Safety data sheets.

For detailed information on revisions, contact the Registration holder.

### 16. OTHER INFORMATION

**Packing and Labelling:**

Packed in 1, 5, 10, 20, 25 and 50 kg 3-ply paper or foil 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 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

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