TARGET 200 WDG SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **TARGET 200 WDG**
Other identifier: **Fludioxonil 200 WDG**
Recommended use: Fungicide
Restrictions on use: Agriculture

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:
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. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	**Hazard categories**	**H-statements**
Health		
Dermal	Skin Irrit. 3	H316
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 5	H333
Environment		
Aquatic acute	Aquatic acute 2	H401
Aquatic chronic	Aquatic chronic 2	H411

The most important adverse effects:
Physiochemical effects:
None known.
Human health effects:
Causes serious eye damage.
Label elements:

Signal word: Danger.
Hazard statements:
H316: Causes mild skin irritation.
H318: Causes serious eye damage.
H333: May be harmful if inhaled.
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.
Precautionary statements:
P273: Avoid release to the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P305/351/338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: IF IN EYES: Immediately call a POISION CENTRE.
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: Cat. 5
Classification according to WHO: Cat. III
Classification according to GPIC (Active): Cat. U

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.
Composition:

Chemical Name	CAS	Conc. (m/m %)	Classification EC 1272/2008
Fludioxonil	131341-86-1	20 %	Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Sodium dodecyl benzene sulfonate	25155-30-0	<10 %	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318)

4. FIRST AID MEASURES

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.
Inhalation: Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, qualified personnel should perform artificial respiration and administer oxygen. Avoid mouth-to-mouth resuscitation. Keep person warm and at rest. **Seek medical advice immediately.**
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 for at least 15 – 20 minutes. Lift eyelids to facilitate irrigation. If present, remove contact lenses after 5 minutes and continue rinsing. **Seek medical attention immediately.**
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: Causes serious eye damage.
Anticipated delayed effects: None known.
Most important symptoms/effects: None known.
Advice to physician: No specific antidote is available. Treat symptomatically and supportively when required.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use carbon dioxide or dry chemical for small fires and water fog or foam for large fires.
Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.
Specific hazards: Product contains combustible organic components; dense black smoke will be produced upon combustion that contains hazardous products.
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 and skin. Do not breathe in spray mists or dusts. 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 may cause 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: Control spill at source provided it is safe to do so without risk.
Methods and Materials for Clean-up: Contain spilled product by picking up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal. Do not create a powder cloud by using a brush or compressed air. 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: Avoid contact with eyes and skin. Ensure adequate ventilation during handling and use. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly 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 excessive heat. Avoid cross contamination with other pesticides and fertilisers.
Incompatible substances and mixtures: Refer to product label.
Packaging material: Plastic, foil or water-soluble container/bags.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration

Components	Exposure limits	Type of exposure limit	Source
Fludioxonil	10 mg/m^3	8 h (TWA)	OES
Quartz	0.4 mg/m^3	TWA	OEL-RL
Diatomaceous earth	1.5mg/m^3	TWA	OEL-RL

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 with cartridges/canisters approved for dusts.
Hand Protection: The use of chemically protective gloves is recommended to prevent against skin contact.
Eye Protection: The use of chemical safety goggles or a face shield 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: Grey to brown. Water dispersible granule.
Odour: Weak, uncharacteristic odour.
pH (1% aqueous dilution): 4.0 to 8.0 at 20ºC.
Melting point: Not available.
Freezing Point: Not available.
Boiling Point: Not available.
Flash Point: Not applicable.
Flammability: Not flammable.
Upper/lower explosion limits: Not available.
Relative Vapour Density: Not available.
Bulk density: 0.54 g/cm^3 at 20ºC.
Solubility: Disperses in water.
n-Octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: 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: Will not occur.
Conditions to Avoid: No hazardous reactions known.
Incompatible Materials: None known.
Hazardous Decomposition Products: None expected under normal use. Can decompose at high temperatures and produce toxic gases.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Calculated according to GHS.
Oral LD_{50} (24 h) rat >6000 mg/kg.
Dermal LD_{50} (24 h) rat >9500 mg/kg.
Inhalation LC_{50} (4 h) rat >12.0 mg/ℓ
Skin Irritation/Corrosion: Causes mild skin irritation.
Eye Irritation/Corrosion: Causes serious eye damage.
Skin Sensitization: Not available.
Respiratory Sensitization: Not available.
Reproductive cell mutagenicity: Not available.
Carcinogenicity: Not available.
Reproductive toxicity: Not available.
Specific target organ toxicity – single exposure: Not available.
Specific target organ toxicity – repeated exposure: Not available.
Aspiration hazard: Not available.
Chronic Effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: May be harmful if inhaled.
Skin contact: Causes mild skin irritation.
Eye contact: Due to the inert formulants, this product can cause serious damage to eyes.
Ingestion: Not available.

12. ECOLOGICAL INFORMATION

This product is toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment.

ECOTOXICITY DATA: Based on the active ingredient.

Fish:		
LC_{50} (96 h)	Bluegill sunfish	0.74 mg/ℓ
	Catfish	0.63 mg/ℓ
	Common carp	1.5 mg/ℓ
	Rainbow trout	0.23 mg/ℓ
Daphnia:		
LC_{50} (48 h)		0.40 mg/ℓ
Algae:		
EC_{50} (72 h)	*Scenedesmus subspicatus*	0.93 mg/ℓ
E_bC_{50}	*Selenastrum capricornutum*	0.025 mg/ℓ
Birds:		
Acute oral LD_{50}	Mallard ducks & Bobwhite quail	>2000 mg/kg
LC_{50}	Mallard ducks & Bobwhite quail	>5200 ppm
Bees:		
LD_{50} (48 h)	Oral and contact	>100 ug/bee
Worms:		
LC_{50} (14 d)	*Eisenia foetida*	>1000 mg/kg soil

Plants: Metabolism proceeds via oxidation at the pyrrole ring, followed by ring opening and the formation of pyrrolidine carboxylic acid. In general, fludioxonil is metabolised to more than 10-15 minor metabolites.

ENVIRONMENTAL EFFECTS:

Animal: Well absorbed from the gastrointestinal tract, rapidly distributed in the body and completely excreted. The major metabolic reaction is the oxidation of the pyrrole ring at the 2-position. All metabolites are excreted as conjugates, mainly glucuronides.

Persistence and degradability: Formation of bound residues is the major route for dissipation in soil. Field DT_{50} *c.* 14 d and *c.* 26-54 d after foliar and seed treatment use, respectively. In leaching and adsorption/desorption experiments, the compound proved to be immobile in soil. Photolytic DT_{50} in water is 9-10 d (natural sunlight).

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. The product may be taken to a registered waste disposal site or incineration plant. Where possible, recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Container: Emptied containers retain dust and product residues. Do not re-use the empty container for any other purpose. Empty containers by inverting the container over the spray or mixing tank. Thereafter, rinse the container three times with a volume of water equal to a minimum of one third of that of the container. Add the rinsing's to the contents of the spray tank before recycling or destroying the container in the prescribed manner. Destroy the container by perforating and flattening and dispose of through an approved waste dumpsite, incineration plant or recycling company. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: **3077**

Road Transport ADR/IRD:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S **(Fludioxonil 200 WDG)**

Maritime Transport IMDG/IMO:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S **(Fludioxonil 200 WDG)**

Marine Pollutant (Y/N): **Yes**

Air transport IATA/ICAO:
Class: 9
Packaging group: III
UN Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S **(Fludioxonil 200 WDG)**

Special/Environmental Precautions: None known.

Transport in bulk (according to MARPOL 73/78, Annex II and the IBC code): Not available.

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 150, 170, 300, 500 g, 1, 2, 5, 10 kg plastic, foil or water-soluble container/bags and labelled according to the South African regulations and guidelines.
Additional H-statement (s) (formulants)
H302: Harmful if swallowed.
H315: Causes skin irritation.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
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 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.

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Compiled: May 2017
Reviewed: April 2018
Revision no.: (2)

For detailed information on revisions, contact the Registration holder.