VILLA LAUREL 800 WDG

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: **LAUREL 800 WDG**
Herbicide
UN No.: 3077
Supplier: **Villa Crop Protection (Pty) Ltd.**
PO Box 10413
Aston Manor, 1630, South Africa
Telephone: (011) 3962233
Fax: (011) 3964666
Website: 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 82 347 0056

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: **Flumetsulam**
Chemical Name: 2',6'-difluoro-5-methyl[1,2,4]triazolo[1,5-a]pyrimidine-2-sulfonanilide
CAS №.: *[98967-40-9]*
Chemical Family: triazolopyrimidine
Chemical Formula: $C_{12}H_9F_2N_5O_2S$
Use: A water dispersible granule herbicide for use in a tank mixture for the pre-emergence control of weeds in crops as indicated. Used alone, at 25-78 g/ha, and in combination with **Trifluralin** or **Metolachlor** for control of broad-leaved weeds and grasses.
Formulation: **FLUMETSULAM 800 WDG**
Water Dispersible Granule
Hazardous Ingredient: **Flumetsulam** / triazolopyrimidine
Symbol: Xi, Xn
Indication of danger: Irritating and Harmful substance
Risk phrases: R 21/22, R 36/38

3. HAZARD IDENTIFICATION

Major Health Hazard: Hazardous chemical grey-brown granules. **Inhalation:** Single exposure to dust is not likely to be hazardous. Vapours are unlikely due to physical properties.
Eye: The product may cause pain and/or slight irritation with corneal injury. Avoid contact with eyes.
Skin: Avoid contact with skin.
Swallowed: Single dose oral toxicity is extremely low.

4. FIRST AID MEASURES AND PRECAUTIONS

Inhalation: Single exposure to dust is not likely to be hazardous. Vapours are unlikely due to physical properties. Avoid inhalation of spray mist. If vapours or mists have been inhaled, remove the source of contamination or move victim to fresh air. Obtain medical attention immediately.
Skin contact: Remove contaminated clothing, shoes and leather goods. Prolonged exposure may cause slight skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Wash skin gently and thoroughly with cold water and non-abrasive soap. Obtain medical attention if irritation persists.
Eye contact: Immediately flush the eyes with clean, gently flowing water for at least 15 - 20 minutes, holding the eyelid(s) open. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye(s). Obtain medical attention if irritation persists.
Ingestion: No hazards anticipated from swallowing small amounts incidental to normal handling operations. Obtain medical attention immediately. Do not induce vomiting unless told so to do by the poison control centre or doctor. Do not give anything by mouth to an unconscious person. Remove visible particles from mouth.
Advice on treatment: No specific antidote known. Have the product container or label with you when calling a poison control centre or doctor.
Treat symptomatically.

5. FIRE FIGHTING MEASURES

Fire and explosion hazard: Not flammable.
No risk of an explosion from this product under normal circumstances when involved in a fire.
Hazardous products of decomposition: If the product is involved in fire, oxides of nitrogen and halogen derivatives may be formed.
Extinguishing agents: Extinguish fires with carbon dioxide, dry powder, water or foam. Avoid the accumulation of polluted run-off from the site.

Firefighting: Remove spectators from surrounding area. Isolate the fire area and evacuate downwind. Use a water spray, CO_2, dry chemical and foam-extinguishing agent for the type of surrounding fire. If area is exposed to fire and conditions permit, let fire burn itself out.
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.
Burning chemicals may produce by-products more toxic than the original material. 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.
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: If product is on fire, wear self-contained breathing apparatus and full protective equipment. Do not breathe fumes from burning material. Keep upwind.

6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

Personal precautions: Avoid contact with skin and eyes. Do not breathe in spray or fumes. For personal protection see Section 8.
Environmental precautions: Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.
Occupational spill: For dry spills, shovel up and sweep up with damp earth or sand or other suitable absorbents, taking care not to raise a dust cloud. Place the material into a labelled, clean, dry container and store in a safe place to await proper disposal. All contaminated cleaning materials should be placed in closable receptacles.
In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Do not contaminate water while cleaning equipment or disposing of wastes. Keep spectators away and upwind.

7. HANDLING AND STORAGE REQUIREMENTS

Handling: This is a water-dispersible product. Harmful by skin or eye contact. Avoid inhalation of spray and vapour and contact with eyes and skin. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the herbicide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. 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.
Storage: Keep out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area out of direct sunlight. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site 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:
If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.
Respirator: An approved respirator suitable for protection from mists of pesticides is adequate. Limitations of respirator use specified by the approved agency and the manufacturer must be observed.
Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.
Gloves: Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.
Eye protection: The use of safety goggles is recommended.
***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: Dry, free flowing grey-brown granules.
Odour: Odourless.
Flammability: Not Flammable
Flash point: Not applicable
Melting point: 251-253 ºC (Tech)
Vapour pressure: 3.7×10^{-7} mPa (25 ºC)
pH: 5.1 (of a 1 % aqueous dispersion)

Explosivity: Not explosive
Solubility in water: In water 49 mg/ℓ (pH 2.5); solubility increases with pH. Very slightly soluble in acetone and methanol.
Solubility in other solvents: Insoluble in hexane and xylene.

10. STABILITY AND REACTIVITY

Stability: Stable for 2 years under normal conditions. Aqueous photolysis DT 6-12 mo. Soil photolysis DT50 3 mo.
Conditions and Materials to Avoid: Store in a cool, well-ventilated place away from foodstuffs, reducing agents and acids. Avoid exposure to direct sunlight for long periods.
Hazardous decomposition products: If the product is involved in fire, oxides of nitrogen and halogen derivatives may be formed.
Instability: Store under cool, dry conditions (below 48.9 ^{0}C). Do not store under moist conditions.
Incompatibility: Specific materials to avoid: PVA packaging is incompatible (will not dissolve) in liquid fertilizer. For main compounds none reasonably foreseeable.

11. TOXICOLOGICAL INFORMATION

Acute oral LD_{50}: > 5000 mg/kg
Acute dermal LD_{50}: >2000 mg/kg
Inhalation: *4-hour: >1.2 mg/ℓ*
Acute skin irritation: *Formulation:* Slightly irritating only with prolonged exposure.
Acute eye irritation: *Formulation:* Slightly irritating.
Chronic toxicity: **NOEL** for mice >1000, female rats 500, male rats 1000, dogs 1000 mg/kg b.w.
Tetarogenic effects: None.
Developmental toxicity: Slight developmental toxicity.
Mutagenic effects: No effect.
Carcinogenicity: No effect.

12. ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation:
Bio-concentration potential is low (BCP < 100 or Log pow < 3). Log octano/water partition coefficient (Log Pow) is estimated using a struction fragment method to be –0.288. Potential for mobility in soil is slight (Koc between 2000 and 5000). Soil organic carbon/water partition coefficient (koc) is estimated to be 3100. Henry's Law Constant (H) is estimated to be 4.76 E-15 atm M3/mole.
Theoretical Oxygen Demand (ThOD) is calculated to be 2.02 p/p.
ECOTOXICOLOGY:
Birds: LD_{50} on an acute basis is >2000 mg/kg practically non-toxic. Dietary LC_{50} is > 5000 ppm.
Fish: Practically non-toxic to aquatic organisms. LC_{50} >100 mg/ℓ in most sensitive species. Acute LC50 for bluegill is greater than water solubility 300 mg/ℓ
Bees: LD_{50} (dermal) >100 µg/bee
Daphnia: For water flea the LC50 is greater than water solubility, 300 mg/ℓ
Algae: Growth inhibition EC50 for green algae is 4.93 µg/ℓ.
Other aquatic spp.: Acute LC50 for grass shrimp is > 349 mg/ℓ Acute EC50 for shell deposition inhibition in Eastern oyster is > 173 mg/ℓ.

13. DISPOSAL CONSIDERATION

Pesticide and container 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 retain vapour and product residues. Observe all labelled safeguards until container is destroyed.
Empty the container of excess product into the mixing tank or spray tank of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved dumpsite. Do not re-use the empty container 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 (**Flumetsulam** / triazolopyrimidine 800 g/kg)
Maritime Transport IMDG/IMO:
Class: 9
Packaging group: III
Shipping name: Environmentally Hazardous Substance, Solid, N.O.S (**Flumetsulam** / triazolopyrimidine 800 g/kg)

15. REGULATORY INFORMATION

Symbol: Xi, Xn
Indication of danger: Irritating and Harmful substance

Risk phrase(s):
R 21/22 Harmful by inhalation, in contact with skin and if swallowed.
R 36/38 Irritating to eyes and skin.
Safety phrases:
S 2 Keep out of the reach of children.
S 13 Keep away from food, drink and animal feeding stuffs.
S 23 Do not breathe vapour/spray.
S 24/25 Avoid contact with skin and 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.

16. OTHER INFORMATION

Packaging: Packed in 500 g, 1, 5, 10, 12, 15, 20, 25 and 50 kg plastic/foil containers/bags, 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 bit without guarantee in respect of accuracy, and no responsibility is accepted for errors and omissions or the consequence thereof.

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For detailed information on revisions, contact the Registration holder.