

UNIVERSAL SUNDRY 500 WP

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: **SUNDRY 500 WP**
 Herbicide
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:
 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: **Flumioxazin**
Chemical Name: N-(7-fluoro-3,4-dihydro-3-oxo-4-prop-2-ynyl-2H-1,4-benzoxazin-6-yl)cyclohex-1-ene-1,2-dicarboxamide
(IUPAC)
CAS No.: [103361-09-7]
Chemical Family: **N-phenylphthalimide**
Chemical Formula: C₁₉H₁₅FN₂O₄ (Mol. wt.: 354.3)
Formulation: **Flumioxazin 500 WP**
 Watable Powder
Use / Mode of Action: Pre-emergence herbicide

Hazardous Ingredient:
Flumioxazin ±500 %
 Inerts ±500 %

SYMBOLS: Xi, Xn, N
RISK-PHASE(S): R 36/37/38, R 50/ 53, 61

3. HAZARD IDENTIFICATION

Toxicity class: WHO III. Slightly hazardous.
 May cause irritation to the skin and eyes.

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.

Symptoms of poisoning: Formulation may cause harm to the unborn child. The expected adverse health effects resulting from an exposure may include redness and minor swelling to eyes. Repeated exposure to **Flumioxazin** technical in animal produced anemia and other blood stream changes, organs weight changes and changes in blood chemistry.

Inhalation: Immediately remove source of contamination or move victim to fresh air. If breathing has stopped, perform artificial respiration and administer oxygen. Avoid mouth-to-mouth resuscitation. Keep person warm and at rest. Treat symptomatically and supportively as and when required. **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. **Do not induce vomiting, due to the aromatic solvent. Seek medical advice immediately.** If the person is alert and respiration is not depressed, give large quantity of water to drink. Never give anything by mouth to an unconscious person. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Qualified medical personnel should perform administration of gastric lavage or oxygen.

Advice to physician: Treat symptomatically and give supportive therapy; administer activated charcoal.

5. FIRE FIGHTING MEASURES

Fire/Explosion hazard: **Non-Flammable.**

Flash point: Not applicable.

Extinguishing agents: Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting

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for later disposal. 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 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: Do not apply on directly to water, to areas where surface water is present or to intertidal areas below the mean mark. Do not contaminate water by disposal of equipment washwaters. See "Storage, shipment and Disposal" section. In case of spills properly dispose of contaminated materials.

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: 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. Protect from frost.

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: No special equipment is usually needed when handling small quantities. Use the following instruction when handling bulk.

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 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

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appropriate alternative within the immediate work area for emergency use.

LD₅₀ for bobwhite quail >2250 mg/kg.
 LC₅₀ for bobwhite quail >1870 & mallard ducks >2130 mg/kg b.w.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid / free flowing powder.
Colour: Light grey free-flowing pale powder.
Odour: Odourless.
Relative density: 0.49 g/cm³ at 20 °C.
Solubility in water: Dispersible in water.
Flash point: Non applicable.
Flammability: Non-Flammable up to 420 °C.
Explosive properties: Not explosive.
pH of 1% aqueous dilution: 6.0 to 9.0.
Suspensibility: 70 % min.
Persistent Foam: 25 ml max.

Fish: Toxic to aquatic organisms.
 LC₅₀ (96 hours): for rainbow trout 2.3 mg/l
 Bluegill sunfish >21 mg/l
 Sheepshead minnows >4.7 mg/l

Daphnia: Toxic to Daphnia.
 LC₅₀: (48 h) 5.9 mg/l

Bees: Medium toxicity to bees. LD₅₀: for honeybees (oral) >100 µg/bee and (contact) >105 µg/bee

Earthworms:
 LC₅₀ 982 mg/l.
 EC50 (72 h) for *Selenastrum capricornutum* 1.2 µg/l.
 EC50 (120 h) for *Navicula pelliculosa* 1.5 µg/l.

10. STABILITY AND REACTIVITY

Stability: Considered stable. Unlikely to decompose under normal storage conditions.
Condition to avoid: Keep away from heat and ignition sources.
Incompatibilities: Strong oxidising agents, acids and bases.

13. DISPOSAL CONSIDERATION

Pesticide disposal: Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that 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.
Package product wastes: Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Empty the container of excess product into the container of the applicator. Destroy the emptied containers by perforation and flattening. Bury in an approved, designated landfill. Do not re-use the empty container for any other purpose. Do not burn the empty container. Comply with any local legislation applying to disposal.

11. TOXICOLOGICAL INFORMATION

Formulation:
Acute oral LD₅₀: >5000 mg/kg.
Acute dermal LD₅₀: >2000 mg/kg.
Acute inhalation LC₅₀: >1.22 mg/l air (4 h).
Acute skin irritation: Slightly skin irritant.
Acute eye irritation: Slightly eye irritation.
Sensitization: Non skin sensitizer.
Teratogenicity/ Development: Negative (tech.).
Mutagenicity: Negative (tech.).
Carcinogenicity: Non-carcinogenic (tech.).
Chronic: None.
ADI/RfD: (EC) 0.009 mg/kg b.w. [2002] (tech.).
Toxicity class: WHO III.

14. TRANSPORT INFORMATION

UN No.: 3077
Road Transport ADR/IRD:
 Class: 9. Packing group: III
 Shipping name: Environmentally Hazardous Substance, Solid, N.O.S.
Flumioxazin 500 g/kg

Maritime Transport IMDG/IMO:
 Class: 9. Packing group: III
 Shipping name: Environmentally Hazardous Substance, Solid, N.O.S.
Flumioxazin 500 g/kg

12. ECOLOGICAL INFORMATION

In animals: Extensively absorbed and rapidly excreted, with extensive metabolism, by hydroxylation of the cyclohexene ring and cleavage of the imide linkage.
In the soil: DT₅₀ for photolysis on soil 3.2–8.4 d, for aerobic soil metabolism 15–27 d. **Flumioxazin** is relatively unstable and its potential to leach to groundwater is low. K_{oc}1412 (est.); mean K_d (3 soils) c. 889.

15. REGULATORY INFORMATION

Symbol: Xi, Xn, N

ECOTOXICOLOGY:
Birds: Low to no toxicity to birds.

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

For detailed information on revisions, contact the Registration holder.

Risk phrases:

- R 20/22** Harmful by inhalation and if swallowed.
- R 36/37/38** Irritation to eyes, respiratory system and skin.
- R 51/53** Toxic to aquatic organisms, may cause long-term adverse effects.
- R 61** May cause harm to the unborn child.

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 feedingstuffs.
- S 15** keep away from heat.
- S 24/25** Avoid contact with skin and eyes.
- 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 49** Keep only in the original container.
- S 60** This material and its container must be disposed of as hazardous waste.
- S 61** Avoid release to the environment. Refer to instructions/ Safety data sheets.

16. OTHER INFORMATION

Packing and Labelling: Packed in 500 g, 1, 2, 5, 10, 20, 25 and 50 kg bags/containers 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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