**MATERIAL SAFETY DATA SHEET**

**UNIVERSAL NICOSULFURON 750 WDG**

1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** NICOSULFURON 750 WDG

**Herbicide**

**UN No.:** 3077

**Supplier:** Universal Crop Protection (Pty) Ltd.

PO Box 801,
Kempton Park, 1620, South Africa

**Telephone:** (011) 396 2233

**Fax:** (011) 396 4666

**Website:** www.villacrop.co.za

**Emergency telephone:** (011) 396 2233

**24 Hr Emergency Numbers:**

- Bateleur: 083 1233 911 or
- (Client: Villa Crop Protection) 0860 333 911

**In case of Poisoning:**

- Red Cross Poison Information Centre: 021 658 5428
- Tygerberg Poison Information Centre: 021 931 6129
- Griffon Poison Information Centre: 082 446 8946

2. COMPOSITION/INFORMATION ON INGREDIENTS

**Common Name:** Nicosulfuron

**Chemical Name:** 2-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl)-N,N-dimethylnicotinamide; 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-dimethylcarbamoyl-2-pyridylsulfonyl)urea (IUPAC)

**CAS No.:** [111991-09-4]

**Chemical Family:** sulfonylurea

**Chemical Formula:** C₁₅H₁₈N₆O₆S

**Use:** Selective systemic herbicide, absorbed by the foliage and roots, with rapid translocation in xylem and phloem to the meristematic tissues.

**Formulation:** Nicosulfuron 750 g/kg Water Dispersible Granule

**Hazardous Ingredient:** Nicosulfuron / sulfonylurea

**Symbol:** Xi, Xn

**Indication of danger:** Irritating and harmful substance

**Risk phrases:** R 20/22, R 36/37/38

3. HAZARD IDENTIFICATION

**Major Health Hazard:**

No major health hazard is known.

**Inhalation:**

Harmful. Avoid inhalation of spray mist. Long-term inhalation of nuisance dust may overload lung clearance mechanism.

**Eye:**

The product may cause moderate irritation. Avoid contact with eyes.

**Skin:**

Avoid contact with skin. Harmful if absorbed through skin.

**Swallowed:**

Based on animal data, repeated ingestion of high doses of NICOSULFURON 750 WDG may cause reduced white blood cell production.

4. FIRST AID MEASURES AND PRECAUTIONS

**Inhalation:**

Harmful. Avoid inhalation of spray mist. Long-term inhalation of nuisance dust may overload lung clearance mechanism. 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. 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:**

Obtain medical attention immediately. Have person sip a glass of water if able to swallow. 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.

**Advice on treatment:**

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 combustion:**

None.
7. HANDLING AND STORAGE REQUIREMENTS

Handling:
This is a water-dispersible product. It may be packaged in a pre-measured water-soluble packet, which readily dissolves in water. Exposure to moisture or excessive handling of the soluble packets will cause them to break. Harmful by inhalation, 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. 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: Off-white homogeneous granule with no extraneous material.

Odour: Odourless.

Flammability: Not Flammable

Flash point: Not applicable

Melting point: 141 – 144 °C.

Vapour pressure: <7.5 x 10^-5 Pa (110 °C)

pH: Fresh sample: 5.90. Aged 5.95.

Explosivity: Not explosive

Solubility in water: Dispersible. 3.6 g/l at pH 5; 12.2 g/l at pH 7; 39.2 g/l at pH 9 @ 25°C.

Solubility in other solvents:
In acetone 18, ethanol 4.5, chloroform, dimethylformamide 64, acetonitrile 23, toluene 0.370, hexane <0.02, dichloromethane 160 (all in g/kg, 25 °C).

10. STABILITY AND REACTIVITY

Stability: Stable for 2 years under normal conditions.

Conditions and Materials to Avoid: None.

Hazardous decomposition products: Unlikely to occur.

Instability: Not known.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀: Formulation calculated: > 5000 mg/kg (Very low toxicity).

Acute dermal LD₅₀: Formulation calculated: > 2000 mg/kg (Slight to moderate toxicity).

Inhalation: Formulation: LC₅₀ in rats: > 5.6 mg/l (4 hours) (Very low toxicity).

Acute skin irritation: Formulation: Moderate irritant.

Acute eye irritation: Formulation: Moderate irritant.

Chronic toxicity: No adverse effects were noted up to 30 mg/kg in 28-day feeding trials to mice and rats.

Teratogenic effects: A teratology study using does of 0, 186, 930, 2325 and 5581 mg/kg/day showed no maternal effects up to 5581 mg/kg/day, the highest dose tested.

Developmental toxicity: The reproductive NOEL is 287 mg/kg/day with a LOEL of 1269 mg/kg/day based on minimal reduction in litter size at birth.

Mutagenic effects: No mutagenic activity was observed when tested on four strains of Salmonella typhimurium.

Carcinogenicity: Data suggest that Nicosulfuron is not carcinogenic.

ADI: 0.012 mg/kg body weight.

12. ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation: In plants, (maize) Nicosulfuron is rapidly degraded. DT₅₀ is approximately 1.5 to 4.5 days. Hydrolysis of the sulfonylurea bridge to form the pyridine sulfonamide and pyrimidine amine, and hydroxylation on the pyrimidine ring, are the main metabolic pathways. Biodegradation is an important degradation mechanism for Nicosulfuron in soil. The half-life of Nicosulfuron in a silt clay soil is 26 days. However, anaerobic conditions slow down the degradation process. The half-life of Nicosulfuron in silt clay soil/water is 63 days. The main degradates are pyridine sulfonamide and pyrimidine amine.

ECOTOXICOLOGY: Nicosulfuron is slightly toxic to birds on an acute and dietary basis. It is practically non-toxic to fish, invertebrates and honey bees.

Birds: Oral LD₅₀: Quail: > 2250 mg/kg

Fish: LC₅₀ (96 hours): Bluegill sunfish: > 1000 mg/l

Rainbow trout: > 1000 mg/l

Bees: LD₅₀ (contact) > 20 µg/bee

Daphnia: LC₅₀ (48 hours): > 100 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 (sulfonyleurea / Nicosulfuron 750 g/kg)

Maritime Transport IMDG/IMO:
Class: 9
Packaging group: III
Shipping name: Environmentally Hazardous Substance, Solid, N.O.S (sulfonyleurea / Nicosulfuron 750 g/kg)

15. REGULATORY INFORMATION

Symbol: Xi, Xn
Indication of danger: Irritant, Harmful

Risk phrase(s):
R 21/22 Harmful 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.

END OF DOCUMENT

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