

UNIVERSAL TORRENT 100 DC

MATERIAL SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: TORRENT 100 DC
 Insecticide, acaricide

UN No.: 2902

Supplier: 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: FLUFENOXURON

Chemical Name: 1-[4-(2-chloro- α,α,α -trifluoro-*p*-tolylloxy)-2-fluorophenyl]-3-(2,6-difluorobenzoyl)urea (IUPAC)

CAS No.: [101463-69-8]

Chemical Family: benzoylurea

Chemical Formula: C₂₁H₁₁ClF₆N₂O₃

Molecular weight: 488.8

Use: Insect and acarid growth regulator with contact and stomach action. Treated larvae die at the next moult or during the ensuing instar. Treated adults lay non-viable eggs. Control of immature stages of many phytophagous mites (*Aculus*, *Brevipalpus*, *Panonychus*, *Phyllocoptruta*, *Tetranychus* spp.) and insect pests on pome fruit, vines, citrus fruit, tea, cotton, maize, soybeans, vegetables and ornamentals.

Formulation: FLUFENOXURON 100 g/l
 Water Dispersible Concentrate

Hazardous ingredients of toxicological concern:

Inert:	Concern:	% present:
Flufenoxuron:	Environmentally dangerous	10.0 %

Toxic to aquatic organisms, bees and wildlife

Symbol: Xi, Xn
Indication of danger: Irritating and Harmful substance
Risk-Phrases: R23/24/25, R51, R57.

3. HAZARD IDENTIFICATION

Likely routes of exposure:
 Systemic toxicity is unlikely unless large amounts have been ingested. Many substituted urea's can be irritating to eyes, skin and mucous membranes. Coughing and shortness of breath. Nausea, vomiting, diarrhoea, headache, confusion and electrolyte depletion.

In case of inhalation, skin and eye contact, **Flufenoxuron** may cause mild irritation, tearing, nausea, and headache, irritation to mucous membranes and respiratory tract and difficulty breathing.

Skin: Mild irritation.
Eye: Mild irritation.
Inhalation: May cause irritation of the mucous membranes, respiratory tract, headache and nausea.
Swallowed: Toxic if swallowed. It may cause headache, vomiting and nausea.

Other Health Hazard Information: Keep out of reach of children, animals and uninformed persons. Have the product container or label with you when calling a poison control centre or doctor.

4. FIRST AID MEASURES AND PRECAUTIONS

Inhalation:
 Remove the source of contamination or move the person to fresh air. If cough or other respiratory symptoms develop, consult medical personnel. If breathing stops, administer artificial respiration and immediately seek medical attention.

Skin contact:
 Remove contaminated clothing, shoes and leather goods and do not re-use until thoroughly cleaned or laundered. Wash skin with non-abrasive soap and plenty of water for 15 to 20 minutes. Obtain medical attention if irritation persists. Do not rub the skin.

Eye contact:
 Immediately flush eyes with a stream of clean water for 15 to 20 minutes, holding the eyelid(s) open. Obtain medical attention.

Ingestion:
 Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control centre or doctor. Never give anything by mouth to an unconscious person. Obtain medical attention immediately.

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Advice on treatment:

No recognized specific antidote available. Treat according to symptoms (decontamination, vital functions).

5. FIRE FIGHTING MEASURES

Hazardous products of combustion:

Not combustible. However, following evaporation of aqueous component residual material can burn if ignited. On burning may emit toxic fumes.

Extinguishing agents:

Extinguish fires with carbon dioxide, foam, dry chemical and water fog. Water spray can be used for cooling of unaffected stock. Use as little water as possible. Use spray or fog. Solid stream may cause spreading. Contain water used for fire fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

Fire fighting:

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. Use as little water as possible.

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 fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus in the positive-pressure mode with a full-face mask when there is a possibility of exposure. Decontaminate emergency personnel with soap and water before leaving the fire area.

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 into 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. Considered a Marine Pollutant.

Occupational spill:

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

For spills: Recover free liquid with explosion proof pumps, absorb residue 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. If fire potential exists, blanket spill with foam as a precaution. 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 of it in accordance with local regulations.

Open burning or dumping of this material is prohibited.

7. HANDLING AND STORAGE REQUIREMENTS

Handling:

Harmful if inhaled or swallowed. Irritating to eyes and skin. Avoid contact with eyes and skin, and inhalation of spray and vapour. 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 pesticide 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 under lock and key and out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored close to foodstuffs, animal feeds 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.

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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. For maximum protection, wear a supplied air full-face piece respirator, air-lined hood, or full-face piece self-contained breathing apparatus.

Clothing:

Employee must wear cotton overalls or a long sleeve cotton shirt and long trousers and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves:

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

Eye protection:

Wear a face shield when the respirator does not provide eye protection.

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:

Water Dispersible Concentrate.

Colour:

Colourless.

Odour:

Aromatic hydrocarbon.

Flammability:

Non-flammable.

Flash point:

> 60 °C.

Explosion properties:

Not an explosive.

Solubility:

Soluble in water

Density:

0.97 g/ml.

pH of a 1 % aqueous dilution:

7.6.

10. STABILITY AND REACTIVITY

Stability:

Active ingredient content immediately before start of test: 101.0 g/l.

Active ingredient content after 14 days at 54 °C ± 1 °C: 100.8 g/kg.

Chemically and thermally stable.

Storage stability:

Separation after 7 days at 0 °C – No crystallization. After 7 days and within 1 hour after seeding: No separation.

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

Conditions and Materials to Avoid:

Keep the product in a cool, dry place, at below 30 °C. Protect from sunlight, open flame and sources of heat.

Hazardous decomposition products:

Does not occur.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀ rats:

Flufenoxuron: Acute oral LD₅₀ for rats 2000 mg tech./kg

Acute dermal LD₅₀ rats:

Flufenoxuron: Acute percutaneous LD₅₀ for rats and mice >2000 mg/kg.

Acute skin irritation:

Flufenoxuron: Mild irritating to skin.

Acute eye irritation:

Flufenoxuron: Mild-irritating to eyes.

Dermal sensitisation:

Not a skin sensitizer (guinea pigs, M&K).

Inhalation:

Flufenoxuron Technical: LC₅₀ (4 h) for rats >5.1 mg/l air.

Mutagenicity:

Non-mutagenic.

Reproductivity:

Not available.

Teratogenicity:

Not available.

Carcinogenicity:

Not available.

12. ECOLOGICAL INFORMATION

Mobility, Degradability & Accumulation:

NOEL (1 y) for dogs 100 mg/kg diet (3.6 mg/kg b.w. daily); (2 y) for rats 50 mg/kg diet (2.5 mg/kg b.w. daily); (2 y) for mice 1000 mg/kg diet (170 mg/kg b.w. daily)

ADI 0.025 mg/kg b.w.

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

Soil/Environment Strongly adsorbed in soil, DT₅₀ 42 d (clay loam). Use in orchards over 3 years at a dose of 97.5 g/ha gave rise to low residues in soil which did not significantly affect soil organisms, including earthworms (J. M. Gilbert *et al.*, *Proc. Br. Crop Prot. Conf. - Pests Dis.*, 1992, **2**, 805-810).

ECOTOXICOLOGY:

Birds:

Flufenoxuron Technical:

Acute oral LD₅₀ for bobwhite quail >2000 mg/kg.

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Fish:
Flufenoxuron Technical:
 LC50 (96 h) for rainbow trout >4.9 µg/ℓ.
Daphnia: LC50 (48 h) 0.04 µg/ℓ.
Algae: EC50 (96 h) for *Selenastrum capricornutum* >4 mg/ℓ.
Bees: LD50 (oral) >109.1 µg/bee, (contact) >100 µg/bee.
Worms: >1000 mg/kg.
Other beneficial spp.:
 Low hazard to predatory mites and other predatory and parasitic arthropods.

13. DISPOSAL CONSIDERATION

Pesticide disposal:
 Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product 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.

Container disposal:
 Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed.

TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water equal to a minimum of a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container in the prescribed manner.

Do not re-use the empty container for any other purpose but destroy it by perforation and flattening and bury in an approved dumpsite. Prevent contamination of food, feedstuffs, drinking water and eating utensils. Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN NUMBER: 2902
Road Transport ADR/RID:
 Class: 9
 Packaging group: III
 Shipping name: PESTICIDE, LIQUID, TOXIC, N.O.S. Environmentally Hazardous Substance, N.O.S. (**Flufenoxuron** 100 g/ℓ)

Maritime Transport IMDG/IMO: MARINE POLLUTANT
 Class: 9

Packaging group: III
 Shipping name: PESTICIDE, LIQUID, TOXIC, N.O.S. Environmentally Hazardous Substance, N.O.S. (**Flufenoxuron** 100 g/ℓ)
Considered a marine pollutant.

15. REGULATORY INFORMATION

Symbol: Xi, Xn
Indication of danger: Irritating and Harmful substance.
Risk phrase(s):
R 23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R 51 Toxic to aquatic organisms.
R 57 Toxic to bees.
Safety phrases:
S 1/2 Keep locked up and out of reach children.
S 13 Keep away from food, drink and animal feeding stuffs.
S 20/21 When using do not eat or drink animal feeding stuffs.
S 24/25 Avoid contact with skin and eyes.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
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.

16. OTHER INFORMATION

Packaging:
 Packed in 1, 5, 10, 20 and 25 litres fluorinated plastic containers and 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 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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END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.