

DICLOFEN 240 SC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: DICLOFEN 240 SC
Other identifier: Spirodiclofen 240 SC
Recommended use: Insecticide
Restrictions on use: Agriculture, small-scale farming

Supplier: Universal Crop Protection (Pty) Ltd.
Co. Reg. No.: 1983/008184/07
 PO Box 801
 Kempton Park, 1620, 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 63 698 0668

2. HAZARDS IDENTIFICATION

| UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008 | | |
|--|-------------------|--------------|
| Hazard classes | Hazard categories | H-statements |
| Health | | |
| Oral | Acute Tox. 5 | H303 |
| Dermal | Skin Irrit. 3 | H316 |
| | Skin Sens. 1B | H317 |
| Eye | Eye Dam. 1 | H318 |
| Carcinogenicity | Carc. 1B | H350 |
| Reproduction | Repr. 2 | H361 |
| Organ toxicity | STOT RE 2 | H373 |
| Environment | | |
| Aquatic chronic | Aquatic Chronic 1 | H410 |

The most important adverse effects:
Physiochemical effects:
 None known
Human health effects:
 May cause cancer.
 Suspected of damaging fertility or the unborn child.
 May cause damage to organs through prolonged or repeated exposure.

Causes serious eye damage.
Label elements:



Signal word: Danger
Hazard statements:
 H303: May be harmful if swallowed.
 H316: Causes mild skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H350: May cause cancer.
 H361: Suspected of damaging fertility or the unborn child.
 H373: May cause damage to organs through prolonged or repeated exposure.
 H410: Very toxic to aquatic life with long lasting effects.
Precautionary statements:
 P202: Do not handle until all safety precautions have been read and understood.
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 P273: Avoid release into the environment.
 P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
 P333+P313: If skin irritation or rash occurs: Get medical advice.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310: Immediately call a POISON CENTRE.
 P308+P313: If exposed or concerned: Get medical attention.
 P405: Store locked up.
 P501: Dispose of content/container to suitable landfill in accordance with local regulations.
 P391: Collect spillage.
Special labelling of certain mixtures:
 None known.
Other hazards:
 None known.
Toxicity:
 Classification according to GHS: Category 5
 Classification according to WHO: Category III
 Classification according to GPIC: Category III

DICLOFEN 240 SC

SAFETY DATA SHEET

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture
 Composition:

| Chemical Name | CAS | Conc. (m/v %) | Classification EC 1272/2008 |
|---------------------------------|-------------|---------------|--|
| Spirodiclofen | 148477-71-8 | 24 % | Skin Sens. 1B (H317) Carc. 1B (H350) STOT RE 2 (H373) Repr. 2 (H316f) Aquatic Chronic 1 (H410) |
| Sodium dodecylbenzene 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: Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs.

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.**

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: Allergic skin reaction or mild skin irritation.

Anticipated delayed effects: May cause cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

Most important symptoms/effects: Long term effects on health.

Advice to physician: Treat symptomatically and supportively. No specific antidote known.

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: In the event of a fire, the following may be released: Hydrogen chloride (HCl) & Carbon monoxide (CO)

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. Do not breathe in spray mist or dust/fumes/vapours. 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 as very 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: Contain spilled product by diking area with sand or earth.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, vermiculite, earth or other appropriate material. Vacuum, scoop, or sweep up material and place the material into a clean, dry, sealable container. 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

DICLOFEN 240 SC

SAFETY DATA SHEET

suitable detergent. See section 13 for disposal considerations.

7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not handle broken packages without protective equipment. Immediately clean up spills that occur during handling. Keep containers 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 excess heat. Not to be stored next to foodstuffs, feed and water supplies. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

Packaging material: Plastic containers.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration: No occupational exposure limits have been determined for the significant ingredients in this product.

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 (Product Dependent):

Respiratory Protection: Use a NIOSH approved air-purifying respirator with cartridges/canisters approved for organic vapours.

Hand Protection: The use of chemically protective (impervious) gloves is recommended to prevent against skin contact.

Eye Protection: The use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin and Body Protection: Employee must wear appropriate protective (impervious) 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: Suspension concentrate / viscous liquid; off-white to beige

Odour: Weak characteristic odour

pH (1% aqueous dilution): Not available

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

Vapour Pressure (mm Hg): Not available

Relative Vapour Density: Not available

Relative density: 1.06 g/cm³ (20°C)

Solubility: Miscible (water)

n-octanol/water partition coefficient: Not available

Auto-ignition temperature: Not available

Decomposition temperature: Not available

Viscosity: 723 cps at 20°C

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: None known.

Conditions to Avoid: Extreme heat or exposure to flames.

Incompatible Materials: Strong oxidizers, strong bases, strong reducing agents.

Hazardous Decomposition Products: Alcohols. Carbon monoxide and carbon dioxide may form under burning conditions or with incomplete combustion. No decomposition products expected under normal conditions of use.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Oral LD₅₀ rat > 3581 mg/kg

Dermal LD₅₀ rat / rabbit > 7274 mg/kg

DICLOFEN 240 SC

SAFETY DATA SHEET

Inhalation LC₅₀ rat > 20 mg/ℓ

Skin Irritation: Causes mild but temporary skin irritation.

Eye Damage: May cause serious eye damage.

Skin Sensitization: May cause an allergic skin reaction.

Respiratory Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Reproductive cell mutagenicity: Not available.

Carcinogenicity: May cause cancer.

Reproductive toxicity: Suspected of damaging fertility or the unborn child.

Specific target organ toxicity – single exposure: Not available.

Specific target organ toxicity – repeated exposure: May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Not available

Chronic Effects: Cancer, infertility, organ damage.

POTENTIAL ADVERSE EFFECTS:

Inhalation: Breathing difficulties.

Skin contact: Allergic reaction.

Eye contact: Eye damage.

Ingestion: Diarrhoea, vomiting, death.

12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant. Data shown is for the active ingredient.

ECOTOXICITY DATA:

Fish:

LC₅₀ (96 h) Rainbow trout >0.035 mg/ℓ

Daphnia:

EC₅₀ (48 h) >0.051 mg/ℓ

Algae:

E_pC₅₀ & E_iC₅₀ (96 h) *Pseudokirchneriella subcapitata* >0.06 mg/ℓ

Birds:

Acute oral LD₅₀ Bobwhite quail >2000 mg/kg

Dietary LC₅₀ (5 d) Bobwhite quail & Mallard ducks >5000 mg/kg feed

Bees:

LD₅₀ contact >200 mg/bee

LD₅₀ oral >196 mg/bee

Worms:

LC₅₀ *Eisenia fetida* >1000 mg/kg dry soil

Plants:

ENVIRONMENTAL EFFECTS:

Persistence and degradability: DT₅₀ in soil 0.5-5.5 d. DT₅₀ (aerobic) 10-64 d. No leaching problem. K_{oc} 31 037-238 000.

Bio-accumulative Potential: Not determined.

Mobility in soil: The major metabolite formed by de-esterification (spirodiclofen enol) is highly mobile; however, modelling studies indicate that significant quantities will not be present in ground water.

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. Comply with local legislation applying to waste disposal. The product may be taken to a registered waste disposal site or incineration plant.

Container: Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Triple rinse empty containers by inverting 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 third of that of the container. Add the rinsings to the contents of the spray tank before destroying the container in the prescribed manner. Destroy the container by perforating and flattening and dispose of through an approved waste dump site, incineration plant or recycling company. Observe all labelled safeguards until container is destroyed.

14. TRANSPORT INFORMATION

UN Number: 3082

Road Transport ADR/IRD:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Spirodiclofen 90g/ℓ)

Maritime Transport IMDG/IMO:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Spirodiclofen 90g/ℓ)

Marine Pollutant (Y/N): Yes

Air Transport IATA/ICAO:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: Environmentally hazardous substance, Liquid, N.O.S. (Spirodiclofen 90g/ℓ)

Special/Environmental Precautions: Wedge drums tightly to avoid movement.

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

DICLOFEN 240 SC

SAFETY DATA SHEET

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 10, 15, 20, 50, 100, 200, 250, 500 ml and 1, 2, 5, 10, 20, 25 litres plastic containers, labelled according to South African regulations and guidelines.

Additional H statements (formulants):

H302: Harmful if swallowed.

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.

END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.