

# SPIROFEN 240 SC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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

**Supplier:** Villa Crop Protection (Pty) Ltd.  
**Co. Reg. No.:** 1992/002474/07  
 PO Box 10413, Aston Manor,  
 1630, South Africa

**Telephone:** (011) 3962233  
**Fax:** (011) 3964666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone numbers:**  
**24 Hr Transport / Spill emergency no:**  
 (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

## 2. HAZARDS IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
<b>Health</b>		
Oral	Acute Tox. 5	H303
Dermal	Skin Irrit. 3	H316
	Skin Sens. 1B	H317
Eye	Eye Dam. 1	H318
Inhalation	Acute Tox. 4	H332
Carcinogenicity	Carc. 1B	H350
Reproduction	Repr. 2	H361
Organ toxicity	STOT RE 2	H373
<b>Environment</b>		
Aquatic chronic	Aquatic Chronic 1	H410

### The most important adverse effects:

#### Physicochemical effects:

None known

#### Human health effects:

May be harmful if swallowed (Acute Tox. 5). Causes mild skin irritation (Skin Irrit. 3). May cause an allergic skin reaction (Skin Sens. 1B). Causes serious eye damage (Eye Dam. 1). Harmful if inhaled (Acute Tox. 4). May cause cancer (Carc. 1B). Suspected of damaging fertility or the unborn child (Repr. 2). May cause damage to blood and liver through prolonged or repeated exposure (STOT RE 2).

### 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.  
 H332: Harmful if inhaled.  
 H350: May cause cancer.  
 H361: Suspected of damaging fertility or the unborn child.  
 H373: May cause damage to blood and liver through prolonged or repeated exposure.  
 H410: Very toxic to aquatic life with long lasting effects.

#### Precautionary statements:

P203: Obtain, read and follow all safety instructions before use.  
 P261: Avoid breathing fumes, mists, vapours or spray.  
 P264+P265: Wash hands thoroughly after handling. Do not touch eyes.  
 P271: Use only outdoors or in a well-ventilated area.  
 P272: Contaminated work clothing should not be allowed out of the workplace.  
 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.  
 P304+P340+P317: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help.  
 P305+P354+P338: IF IN EYES: Immediately rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313: If exposed or concerned: Get medical attention.  
 P333+P317: If skin irritation or rash occurs: Get medical help.  
 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:

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None known.

**Other hazards:**

None known.

**Toxicity:**

Classification according to GHS: Category 4

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

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

### 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)

### 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.

### 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 blood and liver through prolonged or repeated exposure.

### 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

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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 suitable detergent. See section 13 for disposal considerations.

### 7. HANDLING AND STORAGE

**Handling:**

**Precautions for safe handling:** Avoid contact with skin, eyes, and inhalation. 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/cm<sup>3</sup> (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.

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## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY:

Calculated according to GHS:

Oral LD<sub>50</sub> rat > 3531 mg/kg

Dermal LD<sub>50</sub> rat / rabbit > 7274 mg/kg

Inhalation LC<sub>50</sub> rat > 3 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 calculated.

**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 blood and liver through prolonged or repeated exposure.

**Aspiration hazard:** Not available

**Chronic Effects:** Cancer, infertility, organ damage.

### POTENTIAL ADVERSE EFFECTS:

**Inhalation:** Harmful if inhaled. Breathing difficulties.

**Skin contact:** Allergic reaction.

**Eye contact:** Eye damage.

**Ingestion:** Diarrhoea, vomiting,

## 12. ECOLOGICAL INFORMATION

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

### ECOTOXICITY DATA:

#### Fish:

LC<sub>50</sub> (96 h) Rainbow trout >0.035 mg/l

#### Daphnia:

EC<sub>50</sub> (48 h) >0.051 mg/l

#### Algae:

E<sub>p</sub>C<sub>50</sub> & E<sub>r</sub>C<sub>50</sub> (96 h) *Pseudokirchneriella subcapitata* >0.06 mg/l

#### Birds:

Acute oral LD<sub>50</sub> Bobwhite quail >2000 mg/kg

Dietary LC<sub>50</sub> (5 d) Bobwhite quail & Mallard ducks >5000 mg/kg feed

#### Bees:

LD<sub>50</sub> contact >200 mg/bee

LD<sub>50</sub> oral >196 mg/bee

#### Worms:

LC<sub>50</sub> *Eisenia fetida* >1000 mg/kg dry soil

**Plants:** In proposed crop plants, there is limited metabolism, which proceeds as in rats. The residue definition comprises parent spirodiclofen alone.

**Animal:** Rapidly absorbed, widely distributed and mostly excreted within 48 h. Metabolism in rats and ruminants involves cleavage of the ester, followed by hydroxylation of the cyclohexane ring. In rats, metabolism continues with cleavage of the enol ring, leading to formation of the cyclohexyl ester of 2,4-dichloromandelic acid, which is further metabolised. The residue definition comprises spirodiclofen enol.

### ENVIRONMENTAL EFFECTS:

**Persistence and degradability:** DT<sub>50</sub> in soil 0.5-5.5 d. DT<sub>50</sub> (aerobic) 10-64 d. No leaching problem. K<sub>oc</sub> 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. Puncture the triple rinsed container and dispose of via an approved collector or recycler ([www.croplife.co.za](http://www.croplife.co.za)). Do not bury, burn or donate the container to any other parties that may use it as a container for food or beverages. 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:**

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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.

### 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:** 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.

**H315:** Causes skin irritation.

**IATA:** International Air Transport Association.

**IBC:** International Bulk Chemical.

**ICAO:** International Civil Aviation Organization.

**IMDG:** International Maritime Dangerous Goods

**IMO:** International Maritime Organization.

**LD<sub>50</sub> value:** The median lethal dose or the amount of a toxic agent that is sufficient to kill 50 percent of a population within a certain period of time.

**OEL/RL:** Occupational exposure limit-recommended limit.

**TWA:** Time-weighted average – The average exposure over a specified period, usually a nominal eight hours.

**ST/STEL:** Short-term exposure limits.

**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.