

GINSTOP 540 SC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: GINSTOP 540 SC
Other identifier: Thidiazuron + Diuron 540 SC
Recommended use: Plant growth regulator
Restrictions on use: Agriculture

Supplier: Villa Crop Protection (Pty) Ltd
Co. Reg. No.: 1992/002474/07
 PO Box 10413,
 Aston Manor, 1630, South Africa
Telephone: (011) 396 2233
Fax: (011) 396 4666
Website: 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
Health		
Oral	Acute Tox. 5	H303
Dermal	Acute Tox. 5 Skin Irrit. 2	H313 H315
Eye	Eye Irrit. 2	H319
Specific Target Organ Toxicity – Single Exposure	STOT SE 3	H335
Carcinogenicity	Carc. 2	H351
Specific Target Organ Toxicity – Repeated Exposure	STOT RE 2	H373
Environment		
Aquatic Acute 1	Aquatic Acute 1	H400
Aquatic chronic	Aquatic Chronic 1	H410

The most important adverse effects:

Physiochemical effects:

None known

Human health effects:

May be harmful if swallowed or in contact with skin.

(Acute Tox. 5)
 Causes skin irritation. (Skin Irrit. 2)
 Causes serious eye irritation. (Eye Irrit. 2)
 May cause respiratory irritation. (STOT SE 3)
 Suspected of causing cancer. (Carc. 2)
 May cause damage to organs through prolonged or repeated exposure. (STOT RE 2)

Label elements:



Signal word: Warning

Hazard statements:

H303: May be harmful if swallowed
 H313: May be harmful in contact with skin
 H315: Causes skin irritation.
 H319: Causes serious eye damage.
 H335: May cause respiratory irritation.
 H351: Suspected of causing cancer.
 H373: May cause damage to organs through prolonged or repeated exposure.
 H400: Very toxic to aquatic life
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P203: Obtain, read and follow all safety instructions before use.
 P260: Do not breathe dust, fume, gas, mist, vapours and spray.
 P264+P265: Wash hands and face thoroughly after handling. Do not touch eyes.
 P271: Use only outdoors in a well-ventilated area.
 P273: Avoid release into the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
 P301+P317: IF SWALLOWED: Get medical help.
 P302+P317+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap. Get medical help.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P318: IF exposed or concerned, get medical advice.
 P319: Get medical help if you feel unwell.
 P332+P317: If skin irritation occurs: get medical help.
 P337+P317: If eye irritation persists: Get medical help.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P391: Collect spillage.

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P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of content/container to suitable landfill in accordance with local regulations.

Special labelling of certain mixtures: None known.

Other hazards: None known.

Toxicity:

Classification according to GHS: Category 5

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Thidiazuron	51707-55-2	30.51 %	Acute tox. 4 (H312) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H332) STOT SE 3 (H335)
Diuron	330-54-1	15.25 %	Acute tox. 4 (H302) Carc. 2 (H351) STOT RE 2 (H373) Aquatic acute 1 (H400) Aquatic chronic 1 (H410)

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 if breathing is 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. Do not rub skin. Emergency personnel should wear gloves and avoid contamination.

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: Do not induce vomiting. 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:

May be harmful if swallowed or in contact with skin.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation

Anticipated delayed effects:

Suspected of causing cancer.

May cause damage to organs through prolonged or repeated exposure.

Most important symptoms/effects: None known.

Advice to physician: Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media: Do not use high-volume water jet, as this will spread the fire.

Specific hazards: During fire, the following may be released: hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), sulphur oxides, Nitrogen oxides (NOx).

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 and skin. Do not breathe in spray mist or 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.

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Environmental Precautions: Prevent spilled product from entering sewers, waterways or ground water. This product is classified to be 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 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. 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

Components	Exposure limits	Type of exposure limit	Source
Diuron	10 mg/cm ³	REL	NIOSH

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

Respiratory Protection: For most well-ventilated conditions, no respiratory protection should be needed. If used in a poorly ventilated area (airborne concentrations exceed exposure limits), 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 e.g. goggles boots, hat and equipment to prevent repeated or prolonged skin contact with this substance. Do not wear leather clothing.

Emergency eyewash: Where there is any possibility that an employee's eyes may be exposed to this substance; the employer should provide an eyewash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white, homogenous liquid suspension.

Odour: Off aromatic solvents.

pH (1% aqueous dilution): 6.5 @ 24 °C.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: Not available.

Flammability: Not available.

Upper/lower explosion limits: Not available.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density/Relative density: 1.18 mg/l @ 24 °C.

Solubility: Not available.

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n-octanol/water partition coefficient: Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.

10. STABILITY AND REACTIVITY

Chemical Stability: The product is stable for 2 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: No hazardous reactions will occur when stored and handled according to prescribed instructions.

Conditions to Avoid: Flames, fire, extreme temperatures and direct sunlight.

Incompatible Materials: None known. Store only in the original container.

Hazardous Decomposition Products: In the event of fire this product may produce by products such as Hydrogen chloride (HCL), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Sulphur oxides & Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS.

Oral LD₅₀ (24 h) 2351.07 mg/kg.

Dermal LD₅₀ (24 h) 2622.22 mg/kg.

Inhalation LC₅₀ (4 h) rat 7.54 mg/ℓ.

Skin Irritation/Corrosion: Causes skin irritation.

Eye Damage/Irritation: Causes serious eye irritation.

Skin Sensitization: Not classified.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: May cause respiratory irritation.

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

Aspiration hazard: Not available.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Inhalation: May be harmful if inhaled.

Skin contact: Causes skin irritation.

Eye contact: Causes serious eye irritation.

Ingestion: May be harmful if swallowed.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms with long lasting effects.

ECOTOXICITY DATA: Based on the active ingredient.

Thidiazuron + Diuron

Fish:

Thidiazuron

LC ₅₀ (96 h)	Rainbow trout	>19 mg/ℓ.
	Bluegill sunfish	>32 mg/ℓ.

Diuron

LC ₅₀ (96 h)	Rainbow trout	14.7 mg/ℓ.
	Sheepshead minnows	6.7 mg/ℓ.
	Fathead minnows	14 mg/ℓ.

Daphnia:

Thidiazuron

LC ₅₀ (48 h)		>10 mg/ℓ.
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Diuron

EC ₅₀ (48 h)		1.4 mg/ℓ.
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Algae:

Thidiazuron

No data

Diuron

EC ₅₀ (120 h)	<i>Selenastrum capricornutum</i>	0.022 mg/ℓ.
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Birds:

Thidiazuron

Acute oral LD ₅₀	Japanese quail	>3160 mg/kg.
Dietary LC ₅₀ (8 d)	Bobwhite quail & mallard ducks	>5000 mg/kg diet

Diuron

Oral LD ₅₀ (14 d)	Bobwhite quail	1104 mg/kg.
Dietary LC ₅₀ (8 d)	Bobwhite quail	1730 ppm
	Japanese quail	>5000 ppm
	Mallard ducks	5000 ppm
	Pheasants	>5000 ppm.

Bees:

Thidiazuron

Non-toxic to Honeybees.

Diuron

LD ₅₀ (contact)	Practically non toxic to bees.	145 mg/kg.
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Worms:

Thidiazuron

earthworms	>1400 mg/kg.
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Diuron

LC ₅₀ (14 d)	>400 mg/kg.
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Plants:

Thidiazuron: Only small amounts of residue (normally <0.1 mg/kg) are likely in cottonseed.

Diuron: In plants, diuron undergoes demethylation of the nitrogen atom and hydroxylation at position of the benzene ring.

ENVIRONMENTAL EFFECTS:

Animal:

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Thidiazuron: In rats and goats, metabolism involves hydroxylation of the phenyl group, followed by formation of water-soluble conjugates. Following oral administration, the compound is excreted in the urine and faeces within 96 hours.

Diuron: In mammals, metabolism is principally by hydroxylation and dealkylation (C. Boehme & W. Ernst, *Food Cosmet. Toxicol.*, 1965, 3, 797-802).

Persistence and degradability:

Thidiazuron: Strongly adsorbed by soil. DT₅₀ in soil c. 26-144 d (aerobic), 28 d (anaerobic). Essential soil microbial processes are only temporarily influenced.

Diuron: In soil, enzymic and microbial demethylation of the nitrogen atom and hydroxylation at position 2 of the benzene ring occur. Duration of activity in soil is c. 4-8 months, depending on soil type and humidity; DT₅₀ 90-180 d (G. D. Hill *et al.*, *Agron. J.*, 1955, 47, 93; T.J. Sheets, *J. Agric. Food Chem.*, 1964, 12,30). K_{oc} 400.

Bio-accumulative Potential: Not determined.

Mobility in soil: Not determined.

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. Where possible, recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Container: : Emptied containers retain product residues. Do not re-use the empty container for any other purpose. Invert the empty container over the spray or mixing tank and drain for at least 30 seconds after the flow has slowed down to dripping. Thereafter rinse the empty container three times in succession with one quarter of the container volume fresh water and decant the rinsate into the spray or mixing tank.

Puncture the triple rinsed container and dispose of via an approved collector or recycler (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
 (Thidiazuron + Diuron 540 g/l)

Maritime Transport IMDG/IMO:

Class: 9
 Packaging group: III
 UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S
 (Thidiazuron + Diuron 540 g/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
 (Thidiazuron + Diuron 540 g/l)

Special/Environmental Precautions: None known.

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

Other hazard statements, abbreviations and explanations:

H302: Harmful if swallowed.

H312: Harmful in contact with skin.

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H332: Harmful if inhaled.

IBC: International Bulk Chemical.

ICAO: International Civil Aviation Organization.

IMDG: International Maritime Dangerous Goods

IMO: International Maritime Organization.

LD₅₀ 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.