

CRYSTAL 550 SC

SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: CRYSTAL 550 SC
Other identifier: Fenbutatin oxide 550 SC
Recommended use: Insecticide, acaricide
Restrictions on use: (Farming, Home and Garden);
May only be sold and used by a registered pest control operator.

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. HAZARD IDENTIFICATION

UN GHS, Regulation EC 1272/2008 [EU-GHS/CLP] EU & SANS 10234:2008		
Hazard classes	Hazard categories	H-statements
Health		
Dermal	Acute Toxicity 5	H313
	Skin Irrit. 2	H315
	Skin Sens. 1	H317
Eye damage	Eye Irrit. 2	H319
Inhalation	Acute Toxicity 2	H330
Environment		
Aquatic acute	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 in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye irritation.
Fatal if inhaled.

Label elements:



Signal word: Danger.

Hazard statements:

H313: May be harmful in contact with skin.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H330: Fatal if inhaled.
H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P260: Do not breathe dust, fume, gas, mist, 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.
P273: Avoid release into the environment.
P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.
P284: In case of inadequate ventilation wear respiratory protection.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
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.
P333+P317: If skin irritation or rash 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.
P403+P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to suitable landfill in accordance with local regulations.

Other hazards:

None known.

Toxicity:

Classification according to GHS: Category 2

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3. HAZARD IDENTIFICATION

Substance / Mixture: Mixture

Composition:

COMPONENT	CAS	Conc. (m/v %)	Classification EC 1272/2008
Fenbutatin oxide	13356-08-6	48.25	Skin Irrit. 2 (315) Eye Irrit. 2 (H319) Acute Tox. 2 (H330) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Fatty acid methyl Tauride	99734-09-5	< 5	Aquatic Chronic 3 (H412)
Phenyl Sulphonate salt	25155-30-0	< 1	Acute Tox. 4 (H302)
Ethylene glycol	107-21-1	< 1	Acute Tox. 4 * (H302)
Proxel GXL	2634-33-5	< 1	Acute Tox. 4 * (H302) Skin Irrit. 2 (315) Eye Dam. 1 (H318) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)

4. FIRST AID MEASURES

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.**

Eye contact: Immediately flush eyes with a stream of clean water for at least 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.

Anticipated acute effects: Causes serious eye irritation. May cause an allergic skin reaction and moderate to severe skin irritation. May cause irritation of the mucous membranes, respiratory tract, headache and nausea. Fatal if inhaled.

Anticipated delayed effects: None known.

Most important symptoms / effects: Fatal if inhaled.

Advice to physician: There is no specific antidote available. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media: 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.

Unsuitable Extinguishing Media: High volume water jet. Use a water jet only to cool heated containers.

Specific hazards: Non-combustible. However, following evaporation of aqueous component residual material can burn if ignited. On burning may emit toxic fumes.

Special fire-fighting procedures: 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: Wear NIOSH / MSHA approved self-contained breathing apparatus and full protective gear. 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.

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6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with eyes. Avoid breathing dust, mists, vapours or spray.(respiratory sensitization). Ventilate area of spill or leak, especially in contained areas. For personal protection see Section 8.

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 / 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: 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

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, and inhalation of spray and vapour. Irritating to eyes and skin. Fatal if inhaled. Use with adequate ventilation. 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. 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. 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. Remove clothing immediately if the pesticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing.

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 **Febutatin oxide** becomes unstable on prolonged storage above 37 °C and is rapidly decomposed by u.v. 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 CONTROL AND PERSONAL PROTECTION

Permissible concentration

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: 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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Respiratory Protection: 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, airlined hood, or full-face piece self-contained breathing apparatus. 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: Employees must wear appropriate protective (impervious) clothing, (rubber) 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: White in colour. Suspension concentrated liquid.

Odour: None.

Odour threshold: Not available.

pH (1% aqueous dilution): 8.7

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: Not applicable.

Flammability: Non-flammable.

Upper / lower explosion limits: Not explosive.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density / Relative density: 1.146 g/ml.

Solubility: Soluble in water.

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 two years at ambient temperature and pressure, under normal storage and handling conditions. Avoid storage under extreme temperatures and conditions. Do not store below 12 °C.

Active ingredient content immediately before start of test: 504 g/kg. Active ingredient content after 14 days at 54 °C ± 1 °C: 501 g/kg.

Reactivity: None known. Chemically and thermally stable.

Possibility of hazardous reactions: Unlikely to occur.

Conditions to avoid: Keep the product in a cool, dry place, at below 30 °C. Protect from sunlight, open flame and sources of heat. Does not polymerize.

Incompatible materials: None known.

Hazardous decomposition products: Does not occur.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD₅₀ (24h) > 6075 mg/kg (rat)

Dermal LD₅₀ > 4145 mg/kg (rat)

Inhalation LC₅₀ (4h) > 0.1 mg/l (rat)

Skin Irritation / Corrosion: Causes skin irritation.

Eye Damage / Irritation: Causes serious eye irritation.

Skin Sensitization: May cause an allergic skin reaction.

Respiratory Sensitization: Not calculated.

Reproductive cell mutagenicity: Not calculated.

Carcinogenicity: Not calculated.

Reproductive toxicity: Not calculated.

Specific target organ toxicity – single exposure: Not calculated.

Specific target organ toxicity – repeated exposure: Not calculated.

Aspiration hazard: Not calculated.

Chronic Effect: Not calculated.

POTENTIAL ADVERSE EFFECTS: May be harmful in contact with skin. May cause irritation of the mucous membranes, respiratory tract, headache and nausea.

Inhalation: Fatal if inhaled.

Ingestion: Not calculated.

Other information: Not calculated.

12. ECOLOGICAL INFORMATION

This product is not expected to be harmful to aquatic organisms

ECOTOXICITY DATA:

Active ingredient: Fenbutain oxide

Fish:		
LC ₅₀ (48 h)	Rainbow trout	0.00114 mg/l
	Fathead minnows	0.0018 mg/l
Daphnia:		
EC ₅₀ (48 h)		0.0476 mg/l
Algae:		
EC ₅₀ (72 h)	<i>Pseudokirchneriella subcapitata</i>	>0.0036 mg/l

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Birds:		
Acute oral LD ₅₀	Bobwhite quail	>2510 mg/kg
Dietary LD ₅₀ (8d)	Bobwhite quail and mallard ducks	>5620 mg/kg diet
Bees:		
LD ₅₀ oral & contact		>200 µg/bee
Worms:		
LC ₅₀	<i>Eisenia andrei</i>	>500 mg/kg

ENVIRONMENTAL EFFECTS

Based on information for the formulation / active ingredient(s)

Plants: Fenbutatin oxide was extracted unchanged from the surface of plants. The residue definition in plants is the parent compound.

Animals: When orally administered to rats, fenbutatin oxide is poorly absorbed at the gastro-intestinal tract level; minimal degradation occurs following any of the administration routes, as demonstrated by the high faecal excretion of unchanged fenbutatin oxide.

Persistence and degradability: Not determined.

Bio-accumulative potential: Not determined.

Mobility in soil: In soil, it is metabolised to dihydroxy-bis(2-methyl-2-phenylpropyl)stannane and 2-methyl-2-phenylpropyl stannonic acid, presumably ultimately forming tin oxide/hydroxide. In tests in commercial use, there was minimal movement of **Fenbutatin oxide** or its metabolites out of the top 30 cm of soil (A. Gray *et al.*, *Pestic. Sci.*, **43**, 295-302 (1995)).

Other adverse effects: Not determined.

13. DISPOSAL CONSIDERATION

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. 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: 3020

Road Transport ADR/IRD:

Class: 6.1

Packaging group: I

UN Proper Shipping Name: ORGANOTIN PESTICIDE, LIQUID, TOXIC
(Fenbutatin oxide 550 g/l)

Maritime Transport IMDG/IMO:

Class: 6.1

Packaging group: I

UN Proper Shipping Name: ORGANOTIN PESTICIDE, LIQUID, TOXIC
(Fenbutatin oxide 550 g/l)

Marine Pollutant (Y/N): Yes, Considered a marine pollutant.

Air transport IATA/ICAO:

Class: 6.1

Packaging group: I

UN Proper Shipping Name: ORGANOTIN PESTICIDE, LIQUID, TOXIC
(Fenbutatin oxide 550 g/l)

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

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

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

Other hazard statements, abbreviations and explanations:

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H302: Harmful if swallowed.
H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects.
IATA: International Air Transport Association.
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.