

INDICATE 250 SC

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: INDICATE 250 SC
Other identifier: Epoxiconazole 125 g/L + Azoxystrobin 125 g/L
Recommended use: Fungicide
Restrictions on use: Agriculture

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:
(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		
Skin Sensitization	Skin Sensitization 1	H317
Carcinogenicity	Carcinogenicity 1B	H350
Reproductive toxicity	Reproductive toxicity 1B	H360DF
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 cause an allergic skin reaction.
May cause cancer.
May damage fertility or the unborn child.
Label elements:



Signal word: Danger.
Hazard statements:
H317: May cause an allergic skin reaction.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
H350: May cause cancer.
H360DF: May damage fertility or the unborn child.
Precautionary statements:
P203: Obtain, read and follow all safety instructions before use.
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.
P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.
P318 + P321: IF exposed or concerned, get medical advice. See specific treatments on the label.
P333+P317: If skin irritation or rash occurs: Get medical help.
P391: Collect spillage.
P405: Store locked up.
P501: Dispose of contents/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: Unclassified.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture: Mixture.

Composition:

Chemical Name	CAS	Conc. (m/v %)	Classification EC 1272/2008
Epoxiconazole 95%	133855-98-8	13.16%	Carcinogenicity 2 (H351) Aquatic chronic 2 (H411) Reproductive toxicity 1B (H360 DF)
Azoxystrobin 95 %	131860-33-8	13.16%	Acute Toxicity 3 (H331) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
MEG	107-21-1	<10 %	Acute Toxicity 4 (H302)
Formaldehyde	50-00-0	<5 %	Acute Toxicity 3 (H301) Acute Toxicity 3 (H311)

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			Skin Corrosion 1B (H314) Skin Sensitization 1 (H317) Acute Toxicity 3 (H331) Reproductive cell Mutagenicity 2B (H341) Carcinogenicity 1B (H350)
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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 bunker 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 and if symptoms persist consult a doctor.

Inhalation: If vapours or mists have been inhaled, move victim to fresh air and remove source of contamination if safe to do so. Administer artificial respiration if patient is not breathing, if breathing is laboured supply oxygen. Only qualified personnel should administer oxygen. Seek medical attention.

Skin: Remove contaminated clothing and shoes. Wash skin gently and thoroughly with cold water and non-abrasive soap. Obtain medical attention if irritation occurs.

Eyes: Flush eyes with clean water. Lift eyelids to facilitate irrigation. If present, remove contact lenses and continue rinsing. Seek medical attention if irritation develops.

Ingestion: Rinse mouth thoroughly with water if person is alert. Have person drink plenty of water if able to swallow. Never give anything by mouth to an unconscious person. Do not induce vomiting, unless instructed to do so by a physician. If vomiting occurs keep head lower than hips to prevent aspiration. Obtain medical attention of the affected person is not feeling well.

Anticipated acute effects:

May cause an allergic skin reaction.

Anticipated delayed effects: May cause cancer.

May damage fertility or the unborn child.

Most important symptoms/effects: None known.

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

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish fires with carbon dioxide, dry powder, water fog or alcohol-resistant foam.

Unsuitable Extinguishing Media: Water jet.

Specific hazards: In case of fire and/or explosion do not breathe fumes.

Special Fire Fighting Procedures: Remove spectators from surrounding area. Isolate the fire area and evacuate all personnel downwind of the fire. Fight fire from

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: May cause an allergic skin reaction. Remove contaminated clothing and shoes. Wash skin gently and thoroughly with cold water and non-abrasive soap. Obtain medical attention if irritation occurs. May cause cancer. Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles. May damage fertility or the unborn child. IF exposed or concerned, get medical advice.

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 to be very toxic to aquatic organisms and causes 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, earth or silica gel.

Methods and Materials for Clean-up: Cover contained spill with an inert absorbent material such as sand, earth or other appropriate non-combustible 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 (i.e. organic solvent, detergent bleach or caustic). Add the solution to the drums already collected. Open burning or dumping of this material is prohibited. See section 13 for disposal considerations.

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7. HANDLING AND STORAGE

Handling:

Precautions for safe handling: Avoid contact with skin. Avoid breathing mists, dust and spray. Ensure adequate ventilation during handling and use. Do not handle broken containers without protective equipment. Immediately clean up spills that occur during handling. Keep containers tightly 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 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 excessive heat. 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
Formaldehyde	0.75 ppm (ST) 2 ppm	TWA (8 hours)	www.osha.gov

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 OSHA PELs 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: May cause an allergic skin reaction. Wear impervious rubber gloves to prevent against skin contact.

Eye Protection: No eye irritation should occur, but use of chemical safety goggles is recommended to prevent against eye contact. Contact lenses are not protective eye devices.

Skin and Body Protection: The use of protective (impervious) clothing e.g. coveralls is recommended as a general rule to prevent skin contact when working with pesticides.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White soluble concentrate.

Odour: Not available.

pH (1% aqueous dilution): 6.5.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: Not applicable.

Flammability: Not flammable.

Upper/lower explosion limits: Not explosive.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density: 1.078 g/l @ (20°C).

Solubility: Forms a suspension.

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. 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: None known.

Incompatible Materials: Avoid contact with strong oxidizing agents and strong acids.

Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS.

Oral LD₅₀ (24 h) rat >11000 mg/kg.

Dermal LD₅₀ (24 h) rat >7000 mg/kg.

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Inhalation LC₅₀ (4 h) rat >5 mg/ℓ.
Skin Irritation/Corrosion: Not classified.
Eye Damage/Irritation: Not classified.
Skin Sensitization: May cause an allergic skin reaction.
Respiratory Sensitization: Not classified.
Reproductive cell mutagenicity: Not classified.
Carcinogenicity: May cause cancer.
Reproductive toxicity: May damage fertility or the unborn child.
Specific target organ toxicity – single exposure: Not classified.
Specific target organ toxicity – repeated exposure: Not classified.
Aspiration hazard: Not classified.
Chronic Effects: Not available.
POTENTIAL ADVERSE EFFECTS:
Inhalation: Not expected to cause inhalation acute toxicity.
Skin contact: May cause an allergic skin reaction.
Eye contact: Not expected to cause eye irritation.
Ingestion: Do not ingest.

12. ECOLOGICAL INFORMATION

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

ECOTOXICITY DATA:

Azoxystrobin

Fish:			
LC ₅₀ (96 h)	Rainbow trout	0.47 mg/ℓ	
	Bluegill sunfish	1.1 mg/ℓ	
	Carp	1.6 mg/ℓ	
	Sheepshead minnows	0.66 mg/ℓ	

Epoxiconazole

Fish			
LC ₅₀ (96 h)	Rainbow trout	3.14 mg/ℓ	
	Bluegill sunfish	4.6-6.8 mg/ℓ	

Azoxystrobin

Daphnia:			
EC ₅₀ (48 h)		0.28 mg/ℓ	

Epoxiconazole

Daphnia:			
LC ₅₀ (48 h)		8.7 mg/ℓ	

Azoxystrobin

Algae:			
EC ₅₀ (72 h)	<i>Pseudokirchneriella subcapitata</i>	0.18 mg/ℓ	
EC ₅₀ (72 h)	Diatom <i>Navicula pelliculosa</i>	0.028 mg/ℓ	

Epoxiconazole

Algae:			
EC ₅₀ (72 h)	<i>Pseudokirchneriella subcapitata</i>	1.19 mg/ℓ	
EC ₅₀		>10 mg/ℓ	

Azoxystrobin

Birds:			
Acute oral LD ₅₀	Mallard ducks and Bobwhite quail	>2000 mg/kg	
Dietary LC ₅₀ (5 d)	Bobwhite quail and Mallard ducks	>5200 mg/kg diet	

Epoxiconazole

Birds:			
Acute oral LD ₅₀	Bobwhite quail	>2000 mg/kg	
Dietary LC ₅₀	Bobwhite quail	5000 mg/kg diet	

Azoxystrobin

Bees:			
LD ₅₀	(oral)	>25 ug/bee	
	(contact)	>200 µg/bee	

Epoxiconazole

Bees:			
LD ₅₀	Oral	>83µg/bee	
	Contact	>100µg/bee	

Azoxystrobin

Worms:			
LC ₅₀ (14 d)	Earthworms	283 mg/kg soil	

Epoxiconazole

Worms:			
LC ₅₀ (14 d)	Earthworms	>1000 mg/kg soil	

Azoxystrobin

Plants:
In wheat, grapes and peanuts, metabolism was extensive, but parent azoxystrobin was the only major (>10 %) residue. Metabolism followed similar pathways in all three crops.

Epoxiconazole

Plants:
There is extensive degradation.

ENVIRONMENTAL EFFECTS:

Azoxystrobin:

Persistence and degradability: In soil, DT₅₀ (lab.) 70 d (geometric mean; normalised to 20°C, pF₂; SFO kinetics). In soil, in the dark, up to six identified metabolites were formed; over 120 d, up to 27% of

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applied radiolabel is evolved as CO₂. Dissipation in the field is faster; DT₅₀ (geometric mean; SFO) 28 d, DT₉₀ 94 d (best fit, HS kinetics: DT₅₀ 13 d, DT₉₀ 236 d). On soil, photolysis DT₅₀ 11 d. In water-sediment systems (lab., 20°C, dark), water phase ave. DT₅₀ 6.1 d (SFO), total system ave. DT₅₀ 214 d (SFO). Degradation in atmosphere occurs by reaction with hydroxyl radicals (AOP model), DT₅₀ 2.7h.

Epoxiconazole

Persistence and degradability: Degradation in soil is by microbial activity, DT₅₀ c. 2–3 mo. Koc 957–2647.

Bio-accumulative Potential: Not determined for both azoxystrobin and epoxiconazole.

Mobility in soil: Moderately mobile in soil; average K_{roc} for azoxystrobin c. 430. Field dissipation studies showed that neither azoxystrobin nor its major degradates were typically found in soil below the top 15 cm. For **epoxiconazole:** 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. 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

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SUBSTANCE, LIQUID, N.O.S.
 (Azoxystrobin 125 g/L,
 Epoxiconazole 125 g/L)

Maritime Transport IMDG/IMO:

Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, LIQUID, N.O.S.
 (Azoxystrobin 125 g/L,
 Epoxiconazole 125 g/L)

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

Air transport IATA/ICAO:

Class: 9
Packaging group: III
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS

SUBSTANCE, LIQUID, N.O.S.
 (Azoxystrobin 125 g/L,
 Epoxiconazole 125 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 1, 5, 10, 20 and 25 litres plastic containers and labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations, and explanations:

H301: Toxic if swallowed.

H302: Harmful if swallowed.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage.

H331: Toxic if inhaled.

H341: Suspected of causing genetic defects.

H335: May cause respiratory irritation.

H351: Suspected of causing cancer.

H411: Toxic 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.

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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.