

# MINIKIN 250 EC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** MINIKIN 250 EC  
**Other identifier:** Trinexapac-ethyl 250 EC  
**Recommended use:** Plant growth regulator  
**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](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>		
Aspiration	Asp. Tox. 1	H304
Dermal	Skin Sens. 1	H317
Eye	Eye Dam. 1	H318
Acute Toxicity	Acute Tox. 4	H332
Specific target organ toxicity - repeated exposure	STOT Re. 2	H373
<b>Environment</b>		
Aquatic chronic	Aquatic chronic 1	H410

**The most important adverse effects:**  
**Physiochemical effects:** None known.  
**Human health effects:**  
 Cause serious eye damage and may be fatal if swallowed and enters airways. May cause allergic reactions. May cause damage to organs

(gastrointestinal tract) through prolonged or repeated exposure.

### Label elements:



**Signal word:** DANGER

### Hazard statements:

H304: May be fatal if swallowed and enters airways.  
 H317: May cause allergic reactions.  
 H318: Cause serious eye damage.  
 H332: Harmful if inhaled  
 H373: May cause damage to organs (gastrointestinal tract) through prolonged or repeated exposure.  
 H410: Very toxic to aquatic life with long lasting effects.

### Precautionary Statements:

P301+P316: IF SWALLOWED: Get emergency medical help immediately.  
 P331: Do NOT induce vomiting.  
 P405: Store locked up.  
 P501: Dispose of content/container to suitable landfill in accordance with local regulations.  
 P272: Contaminated work clothing should not be allowed out of the workplace.  
 P280: Wear protective gloves/protective clothing.  
 P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.  
 P264+P265: Wash hands thoroughly after handling. Do not touch eyes.  
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P260: Do not breathe dust, fume, gas, mist, vapours and spray.  
 P319: Get medical help if you feel unwell.  
 P391: Collect spillage.

### Other hazards:

None known.

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### Toxicity:

Classification according to GHS: Category 3

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Composition:

Chemical name	CAS	Conc. (m/v%)	Classification EC 1272/2008
Trinexapac	95266-40-3	25 %	Aquatic Chronic 1 (H410) STOT RE. 2 (H373) Skin Sens. 1B (H317)
Poly(oxy-1,2-ethanediyl), $\alpha$ -isotridecyl- $\omega$ -hydroxy	9043-30-5	<40 %	Acute Tox. 4 (H302) Eye Dam. 1 (H318)
Solvent oil	64742-94-5	<60 %	Asp. Tox. 1 (H304)

### 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.

**Inhalation:** Remove person from contaminated area to fresh air and assist breathing as needed. Seek medical attention if irritation occurs. Keep patient warm and at rest. **Seek medical attention if you feel unwell after inhalation.**

**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.

**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. Do not induce vomiting.

**Anticipated acute effects:** None known.

**Anticipated delayed effects:** None known.

**Most important symptoms / effects:** None known.

**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:** i.e., hazards or hazard products arising from combustion.

**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. Remain upwind of fire. 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. **Do not breathe in spray mist or 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 toxic to aquatic organisms

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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 spilt 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 spilt material back in original container. Do not re-use spilt material. Collect washings and add to the drums already collected. Do not flush spilt 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:** Harmful if swallowed. Avoid contact with skin and eyes. Ensure adequate ventilation during handling and use. Do not inhale spray mist or vapours. 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. Do not store near heat, open flame, sources of ignition or hot surfaces. 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:** Fluorinated 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:

**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 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 clothing, 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 eye wash fountain or appropriate alternative within the immediate work area for emergency use.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Dark orange liquid.

**Odour:** Not available

**Odour threshold:** Not available

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**pH (1% aqueous dilution):** 4 to 7  
**Melting point:** Not available.  
**Freezing Point:** 0 °C.  
**Boiling Point:** Not available.  
**Flash Point:** 82 °C.  
**Flammability:** Not available.  
**Upper / lower explosion limits:** Not available  
**Vapour Pressure (mm Hg):** Not available.  
**Relative Vapour Density:** Not available.  
**Density / Relative density:** 0.97 - 1.09g/cm<sup>3</sup> @ 20 °C.  
**Solubility:** Emulsifies 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. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight.  
**Reactivity:** None known.  
**Possibility of hazardous reactions:** Unlikely to occur.  
**Conditions to avoid:** Extreme heat or exposure to flames e.g., static discharge, shock, or vibration.  
**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.

### 11. TOXICOLOGICAL INFORMATION

**ACUTE TOXICITY:**  
 Based on GHS calculation:  
**Oral LD50 (24h):** 7407.41 mg/kg (rat)  
**Dermal LD50:** 14814.81 mg/kg (rats)  
**Inhalation LC50 (4h):** 1.03 mg/l (rat)  
**Skin Irritation / Corrosion:** Animal tests showed the product to be non-irritating.  
**Eye Damage / Irritation:** Causes serious eye damage.  
**Skin Sensitization:** Product is not a skin sensitizer.  
**Reproductive cell mutagenicity:** Not classified.

**Carcinogenicity:** Not classified  
**Reproductive toxicity:** Not classified.  
**Specific target organ toxicity – single exposure:** Not classified .  
**Specific target organ toxicity – repeated exposure:** May cause damage to organs (gastrointestinal tract) through prolonged or repeated exposure.  
**Aspiration hazard:** May be fatal if swallowed and enters airways.  
**Chronic Effects:** Not classified.  
**POTENTIAL ADVERSE EFFECTS:**  
**Inhalation:** Not classified  
**Ingestion:** Not classified  
**Other information:** Not classified.

### 12. ECOLOGICAL INFORMATION

This product is considered a marine pollutant.

#### ECOTOXICITY DATA:

##### Active ingredient: Trinexapac ethyl

##### Fish:

LC <sub>50</sub> (96 h)	Trout	68 mg/l
	Carp	57 mg/l
	Bluegill sunfish	130 mg/l
	Channel catfish	35 mg/l

##### Daphnia:

EC <sub>50</sub> (48 h)	>142 mg/l
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##### Algae:

E <sub>r</sub> C <sub>50</sub> (72 h)	<i>Pseudokirchneriella subcapitata</i>	24.9 mg/l
(96h)	<i>Anabaena flos-aquae</i>	26.4 mg/l

##### Birds:

Acute oral LD <sub>50</sub>	Mallard ducks	>2000 mg/kg
	Bobwhite quail	>2250 mg/kg
	Zebra finch	1690 mg/kg
Dietary LD <sub>50</sub> (8d)	Mallard ducks	>5200 mg/kg diet
	Bobwhite quail	>5200 mg/kg diet

##### Bees:

LD <sub>50</sub> oral & contact	>200 µg/bee
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##### Worms:

LC <sub>50</sub>	<i>Eisenia fetida</i>	>93 mg/kg
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##### Other aquatic spp.

	<i>Lemna gibba</i>	8.8 mg/l
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### ENVIRONMENTAL EFFECTS

**Based on information for the active ingredient: Trinexapac ethyl**

**Persistence and degradability:** Not determined.

**Bio-accumulative potential: Animals:** In rats, goats and hens, 90 % excretion occurs within 24 hours, all as the acid metabolite.

**Plants:** Rapid metabolism to the acid, which remains by far the predominant metabolite.

**Mobility in soil:** In soil, the ester undergoes rapid degradation to the acid,  $DT_{50} < 1$  d (aerobic, 20 °C). Further metabolism is rapid,  $DT_{50}$  of trinexapac 3-40 d (20 °C) within 4-8 w, 50 % is mineralised to  $CO_2$ . Sorption to soil for trinexapac:  $K_d$  1.5-16,  $K_{oc}$  140-600. Trinexapac-ethyl is hydrolytically stable at pH 5-7 and labile pH 9 ( $DT_{50}$  8 d); trinexapac is hydrolytically stable at pH 7 and 9 and moderately stable at pH 5 ( $DT_{50}$  27 d 25 °C). Both compounds are sensitive to aqueous photolysis,  $DT_{50}$  at neutral pH (latitude 50 °N 10 d for ester, 16 d for acid. In lab. water-sediment systems,  $DT_{50}$  c. 5 for trinexapac-ethyl, 13 d for trinexapac.

**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. 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](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 / ORD:**

Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Trinexapac-ethyl 250 g/l)

**Maritime Transport IMDG / IMO:**

Class: 9  
 Packaging group: III  
 UN Proper Shipping Name: Environmentally hazardous substance, liquid, N.O.S. (Trinexapac-ethyl 250 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. (Trinexapac-ethyl 250 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 200, 400, 800 ml, 1, 1.6, 2, 2.5, 4, 5, 10, 21, 25 and 50 litres fluorinated plastic containers labelled according to South African regulations and guidelines.

**Other hazard statements, abbreviations and explanations:**

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**H302:** Harmful if swallowed.

**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.

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### END OF DOCUMENT

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For detailed information on revisions, contact the Registration holder.