

ETHEPHON 480 SL

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ETHEPHON 480 SL
Other identifier: ethephon
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 Toxicity 5	H303
Dermal	Acute Toxicity 4 Skin Corr. 1C	H312 H314
Environment		
Aquatic Chronic	Aquatic Chronic 2	H411

The most important adverse effects:
Physiochemical effects: None known
Human health effects: Causes severe skin burns and eye damage (Skin Corr. 1C).
 Harmful in contact with skin (Acute Tox. 4).
Label elements:



Signal word: Danger
Hazard statements:
 H303: May be harmful if swallowed.
 H312: Harmful in contact with skin.

H314: Causes severe skin burns and eye damage.
 H411: Toxic to aquatic life with long lasting effects.

Precautionary statements:
 P260: Do not breathe dusts or mists.
 P264: Wash hands and face thoroughly after handling.
 P273: Avoid release to the environment.
 P280: Wear impervious rubber gloves and boots, protective clothing, and chemical safety goggles.
 P301+P317: IF SWALLOWED: Get medical help.
 P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P302+P352: IF ON SKIN: Wash with plenty water and non-abrasive soap.
 P302+P361+P354: IF ON SKIN: Take off immediately all contaminated clothing. Immediately rinse with water for several minutes.
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305+P354+P338: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P316: Get emergency medical help immediately.
 P317: Get medical help.
 P362+P364: Take off contaminated clothing and wash it before reuse.
 P363: Wash contaminated clothing before use.
 P391: Collect spillage.
 P405: Store locked up.
 P501: Dispose of contents/container in accordance with local regulations.

Other hazards:
 None known.
Toxicity:
 Classification according to GHS: Category 4.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture
Composition:

Chemical name	CAS	Conc. (m/m %)	Classification EC 1272/2008
Ethephon TC (70%)	16672-87-0	54%	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Skin Corr. 1C (H314) Acute Tox. 4 (H332) Aquatic Chronic 2 (H411)

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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: Causes severe skin burns and eye damage.

Anticipated delayed effects: None known.

Most important symptoms / effects: None known.

Advice to physician: The product is an acid and corrosive.

Oral exposure treatment: If the product has been ingested, do not give bicarbonate to neutralize; activated charcoal is of no value. Dilute acid by drinking large amounts of water or milk. Observe patient carefully for possible development of oesophageal or gastrointestinal tract irritation or burns.

Eye damage treatment: It may take 48 to 72 hours after the burn to correctly assess the degree of ocular damage. If ocular damage is minor, topical mydriatics and antibiotics may be sufficient. If more extensive, consult ophthalmologist.

Skin contact treatment: Acute exposure: Chemical burns to skin are often associated with concurrent thermal burns and trauma. Systemic toxicity may as well occur from absorbed acid. Deep or extensive burns may require grafting. Chronic exposure: Prolonged or repeated exposure can result in dermatitis. Ulcerations may also occur. Treat symptomatically and supportively.

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.

Specific hazards: Hazards or hazardous 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 and skin. 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 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: May be harmful if swallowed. 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

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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

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: 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. 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: Clear, straw-coloured liquid.

Odour: Slight acrid odour.

Odour threshold: Not available.

pH (1% aqueous dilution): 1.2 ± 0.1 in 5 % aqueous solution.

0.62 ± 0.1 in 100 % aqueous solution.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: Not applicable. Product is water-based.

Flammability: Not flammable.

Upper / lower explosion limits: Not available.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density / Relative density: 1.27 ± 0.05 g/ml.

Solubility: Readily 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. Store below 50 °C, preferably below 30 °C, and not for prolonged periods in direct sunlight. Product is UV irradiation sensitive.

Reactivity: None known.

Possibility of hazardous reactions: Unlikely to occur.

Conditions to avoid: Extreme heat or exposure to flames.

Incompatible materials: Strong oxidizers, strong bases, strong reducing agents.

Hazardous decomposition products: Ethylene gas is released with decomposition. Thermal decomposition products may be hazardous and may include oxides of carbon, oxides of phosphorous and hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Calculated according to GHS:

Oral LD₅₀ (24h) > 3900 mg/kg (rat)

Dermal LD₅₀ > 1800 mg/kg (rat)

Inhalation LC₅₀ (4h) > 6.03mg/l (rat)

Skin Corrosion: Causes severe skin burns and eye damage.

Skin Sensitization: Not classified.

Respiratory Sensitization: Not classified.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Not classified.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

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Specific target organ toxicity – repeated exposure:
Not classified.

Aspiration hazard: Not classified.

Chronic Effects: Not available.

POTENTIAL ADVERSE EFFECTS:

Skin: This product can cause severe skin burns and eye damage.

Ingestion: May be harmful if swallowed. May cause burns to mouth, throat, oesophagus, and stomach. Perforations are rare but may occur.

Other information

Ethephon is a weak to moderate cholinesterase inhibitor. Repeated minor exposure may have a cumulative poisoning effect.

12. ECOLOGICAL INFORMATION

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

ECOTOXICITY DATA:

Active ingredient: ethephon

Fish:

LC ₅₀ (96 h)	Rainbow trout	519 mg/ℓ
	Carp	>100 mg/ℓ
	Sheepshead minnow	>102 mg/ℓ
	Fathead minnows	>100 mg/ℓ

Daphnia:

EC ₅₀ (48 h)		>90.4 mg/ℓ
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Algae:

EC ₅₀ (72 h)	<i>Chlorella vulgaris</i>	20.9 mg/ℓ
	<i>Pseudokirchneriella subcapitata</i>	7.1 mg/ℓ
	<i>Selenastrum capricornutum</i>	>1.4 mg/ℓ
	<i>Anabaena flos-aquae</i>	>1.8 mg/ℓ
	<i>Navicula pelliculosa</i>	>1.5 mg/ℓ

Birds:

Acute oral LD ₅₀	Mallard ducks	1425 mg/kg
	Bobwhite quail	764 mg/kg
	Canaries	1636 mg/kg
Dietary LD ₅₀ (8d)	Bobwhite quail	>5000 mg/kg

Bees:

LD ₅₀ contact	>100 µg/bee
LD ₅₀ oral	>117 µg/bee

ENVIRONMENTAL EFFECTS

Based on information for the active ingredient: ethephon

Plants: In plants, ethephon rapidly undergoes degradation to ethylene.

Persistence and degradability: Rapidly degraded in soil, and low mobility, unlikely to leach.

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.

Container: TRIPLE RINSE THE EMPTY CONTAINER

AS FOLLOWS: 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.

14. TRANSPORT INFORMATION

UN Number: 2922

Road Transport ADR / ORD:

Class: 8, 6.1
Packaging group: III
Shipping name: Corrosive liquids, toxic, N.O.S. (Ethephon 480 g/ℓ)

Maritime Transport IMDG / IMO:

Road Transport ADR / ORD:

Class: 8, 6.1
Packaging group: III
Shipping name: Corrosive liquids, toxic, N.O.S. (Ethephon 480 g/ℓ)

Marine pollutant (Y/N): Yes

Air Transport IATA / ICAO:

Road Transport ADR / ORD:

Class: 8, 6.1
Packaging group: III
Shipping name: Corrosive liquids, toxic, N.O.S. (Ethephon 480 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

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Safety, health and environmental regulations / legislation for the mixture:

OHS 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, 25 & 50 litres fluorinated plastic containers, labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H303: May be 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.

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.