

SECTION 1: Identification

1.1. Product identifier

Product form	: Mixture
Trade name	: FarmAg Ethephon (ethephon 480 g/l)
Type of product	: Plant Growth Regulator
CAS-No.	: 16672-87-0
Product group	: End product

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture	: A soluble liquid formulation for use on sugarcane and pineapples as a growth regulator
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1.3. Supplier's details

Supplier

Farm-Ag International (Pty) Ltd
Old Mill Industrial Park
61, Marshall Drive
P.O. Box 1523
4300 Mount Edgecombe – Durban KwaZulu Natal
South Africa
T 031 003 3486

1.4. Emergency telephone number

Emergency number	: 24 Hr Emergency Number: In case of Poisoning: Poison Information Helpline : 0861 555 777
	In case of Spillage: HAZMAT:0800 147 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to the United Nations GHS

Acute toxicity (oral), Category 5	H303
Acute toxicity (dermal), Category 3	H311
Skin corrosion/irritation, Category 1	H314
Serious eye damage/eye irritation, Category 1	H318
Hazardous to the aquatic environment – Acute Hazard, Category 2	H401
Hazardous to the aquatic environment – Chronic Hazard, Category 2	H411

Full text of H-statements: see section 16

2.2. Label elements

Labelling according to the United Nations GHS

Hazard pictograms (GHS ZA)



Signal word (GHS-ZA)	: Danger
Hazardous ingredients	: Ethephon TC
Hazard statements (GHS ZA)	: H303 - May be harmful if swallowed H311 - Toxic in contact with skin. H314 - Causes severe skin burns and eye damage. H411 - Toxic to aquatic life with long lasting effects.

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Precautionary statements (GHS ZA)	: P101 - If medical advice is needed, have product container or label at hand. P102 - Keep out of reach of children. P103 - Read label before use. P260 - Do not breathe vapours, spray. P264 - Wash hands, forearms and face thoroughly after handling. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. P310 - Immediately call a POISON CENTER or doctor. P312 - Call a POISON CENTER or doctor if you feel unwell. P321 - Specific treatment (see supplemental first aid instruction on this label). P361+P364 - Take off immediately all contaminated clothing and wash it before reuse. P363 - Wash contaminated clothing before reuse. P391 - Collect spillage. P405 - Store locked up. P501 - Dispose of contents and container to an approved waste disposal plant.
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2.3. Other hazards

Adverse physicochemical, human health and environmental effects	: Toxic in contact with skin, Harmful if swallowed, Causes severe skin burns and eye damage, Causes serious eye damage, Toxic to aquatic life, Toxic to aquatic life with long lasting effects.
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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to the United Nations GHS
Ethephon TC	CAS-No.: 16672-87-0	≥ 40 – < 45	Acute Tox. 5 (Oral), H303 Acute Tox. 3 (Dermal), H311 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1C, H314 Aquatic Acute 2, H401 Aquatic Chronic 2, H411

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Move the victim to fresh air or remove source of contamination. Keep person warm and at rest. Treat symptomatically and supportively as and when required.
First-aid measures after skin contact	: Move the victim to fresh air and remove all contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash affected skin areas gently and thoroughly with water and non-abrasive soap. Do not rub the skin. If irritation persists, seek medical advice.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.

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First-aid measures after ingestion : Do not induce vomiting. Never give anything by mouth to an unconscious person. Obtain medical attention immediately. Qualified medical personnel should perform administration of oxygen. If the person is alert, rinse mouth thoroughly with water and give person glass of milk to drink.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects : Corrosive! Causes eye and skin damage. The product is considered of low toxicity.
Symptoms/effects after inhalation :
Symptoms/effects after skin contact : Corrosive. Irritant to skin. Severe dermal burns may occur. Product is considered to be a dermal sensitizer.
Symptoms/effects after eye contact : Corrosive. May cause severe eye irritation. Can cause corneal burns and permanent tissue damage.
Symptoms/effects after ingestion : Product is harmful if swallowed. May cause burns to mouth, throat, oesophagus and stomach. Perforations are rare, but may occur.

4.3. Indication of any immediate medical attention and special treatment needed

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 thermaburns 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.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media : Water spray as a fog can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Do not use direct jet of water. Contain water used for fire-fighting for later disposal. Avoid the accumulation of polluted run-off from the site.

5.2. Special hazards arising from the substance or mixture

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

5.3. Advice for firefighters

Firefighting instructions : 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. 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.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Personal protection (Emergency response) : Wear respiratory protection, Wear protective gloves, Wear protective clothing, Wear eye protection, Face-shield

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according to SANS 10234:2019 and SANS 11014:2010



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. Do not breathe vapours, spray. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Do not allow entering drains or watercourses. Spillage or uncontrolled discharges into water courses (or public waters) to be reported immediately to the Police and to the Department of Water/Environmental Affairs.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.
Methods for cleaning up : Occupational spill:
Do not touch-spilled material; stop leak if you can do it without risk. Keep out unprotected persons and animals.
For spills: Soak up 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. Label containers with its content and dispose it in accordance with local regulations. 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.
Open burning or dumping of this material is prohibited. Do not get water inside containers.
Other information : Dispose of materials or solid residues at an authorized site.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Do not breathe vapours, spray. Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area.
Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.
Handling temperature : 75 °C

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.
Storage area : Keep only in the original container. Store out of reach of unauthorised persons, children and animals.
Information on mixed storage : KEEP SUBSTANCE AWAY FROM: Water supplies. Food supplies.
Maximum storage period : 2 years

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according to SANS 10234:2019 and SANS 11014:2010

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.
Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Hand protection : Protective gloves
Eye protection : Safety glasses
Skin and body protection : Wear suitable protective clothing
Respiratory protection : In case of inadequate ventilation wear respiratory protection.

Personal protective equipment symbol(s):



8.4. Exposure limit values for the other components

No additional information available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Clear.
Colour : Straw-coloured.
Odour : Slight acrid odour.
Odour threshold : No data available
pH : 1.7
pH solution : No data available
Relative evaporation rate (butylacetate=1) : No data available
Relative evaporation rate (ether=1) : No data available
Melting point : Not applicable
Freezing point : No data available
Boiling point : No data available
Flash point : No data available
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : Not applicable
Vapour pressure : No data available
Vapour pressure at 50 °C : No data available
Relative vapour density at 20 °C : No data available
Relative density : 1.27
Relative density of saturated gas/air mixture : No data available
Density : No data available
Relative gas density : No data available
Solubility : Soluble.
Partition coefficient n-octanol/water (Log Pow) : No data available
Partition coefficient n-octanol/water (Log Kow) : No data available
Viscosity, kinematic : No data available
Viscosity, dynamic : No data available
Explosive properties : No data available
Oxidising properties : No data available
Explosive limits : No data available

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Lower explosion limit : No data available
Upper explosion limit : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : May be harmful if swallowed.
Acute toxicity (dermal) : Toxic in contact with skin.
Acute toxicity (inhalation) : Not classified

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ATE ZA (oral)	4824.482 mg/kg bodyweight
ATE ZA (Dermal)	983 mg/kg bodyweight
Unknown acute toxicity (GHS ZA)Unknown acute toxicity (GHS ZA)	55.56% of the mixture consists of ingredient(s) of unknown acute toxicity (Dermal) 100% of the mixture consists of ingredient(s) of unknown acute toxicity (Inhalation (Vapours))

Ethephon TC (16672-87-0)

LD50 oral rat	2144 mg/kg
LD50 dermal rat	983 mg/kg
LD50 dermal rabbit	1104 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	3.26 mg/l/4h

Water (7732-18-5)

LD50 oral rat	90000 mg/kg
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Skin corrosion/irritation : Causes severe skin burns.
pH: 1.7
Serious eye damage/irritation : Causes serious eye damage.
pH: 1.7
Respiratory or skin sensitisation : Not classified

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according to SANS 10234:2019 and SANS 11014:2010

Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Toxic to aquatic life. Toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short-term (acute)	: Toxic to aquatic life.
Hazardous to the aquatic environment, long-term (chronic)	: Toxic to aquatic life with long lasting effects.

Ethephon TC (16672-87-0)	
LC50 - Fish [1]	> 100 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Cyprinus carpio, Flow-through system, Fresh water, Experimental value)
LC50 - Fish [2]	519 mg/l Rainbow Trout
EC50 - Crustacea [1]	> 90.4 mg/l
EC50 72h - Algae [1]	20.9 mg/l Chlorella vulgaris
EC50 72h - Algae [2]	7.1 mg/l Pseudokirchneriella subcapitata
Partition coefficient n-octanol/water (Log Pow)	-1.89
Additional ecotoxicological information	Birds: Acute oral LD50 for bobwhite quail 764, mallard ducks 1425, canaries 1636 mg/kg. Dietary LC50 (8d) for bobwhite quail >5000 mg/kg diet. Bees (LD50, µg/bee) >100 (contact); >117 (oral)

Water (7732-18-5)

Partition coefficient n-octanol/water (Log Pow)	-1.38
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12.2. Persistence and degradability

FarmAg Ethephon (ethephon 480 g/l) (16672-87-0)

Persistence and degradability	No additional information available
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Ethephon TC (16672-87-0)

Persistence and degradability	Biodegradable in the soil. Biodegradability in water: no data available.
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12.3. Bioaccumulative potential

FarmAg Ethephon (ethephon 480 g/l) (16672-87-0)

Bioaccumulative potential	No additional information available
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Ethephon TC (16672-87-0)

Partition coefficient n-octanol/water (Log Pow)	-1.89
Bioaccumulative potential	Not bioaccumulative.

Water (7732-18-5)

Partition coefficient n-octanol/water (Log Pow)	-1.38
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according to SANS 10234:2019 and SANS 11014:2010

12.4. Mobility in soil

FarmAg Ethephon (ethephon 480 g/l) (16672-87-0)	
Mobility in soil	No additional information available
Ethephon TC (16672-87-0)	
Partition coefficient n-octanol/water (Log Pow)	-1.89
Ecology - soil	No (test)data on mobility of the substance available. Not toxic to bees.
Water (7732-18-5)	
Partition coefficient n-octanol/water (Log Pow)	-1.38

12.5. Other adverse effects

Ozone	: Not classified
Other adverse effects	: No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
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SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
14.1. UN number		
2922	2922	2922
14.2. Proper Shipping Name		
CORROSIVE LIQUID, TOXIC, N.O.S. (contains ethephon 480 g/l)	CORROSIVE LIQUID, TOXIC, N.O.S. (contains ethephon 480 g/l)	Corrosive liquid, toxic, n.o.s. (contains ethephon 480 g/l)
14.3. Transport hazard class(es)		
8 (6.1)	8 (6.1)	8 (6.1)
14.4. Packing group		
III	III	III
14.5. Environmental hazards		
Dangerous for the environment : Yes	Dangerous for the environment : Yes Marine pollutant : Yes	Dangerous for the environment : Yes
No supplementary information available		

14.6. Special precautions for user

SANS

Special provisions (SANS)	: 223, 274
Limited quantities (SANS)	: 5 L
Limited quantities (SANS)	: 5 L
Packagings, large packagings and IBCs Packing instructions (SANS)	: P001, IBC03

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Portable tank and bulk containers instructions (SANS) : T7
Portable tank and bulk container special provisions (SANS) : TP1, TP28

IMDG

Special provisions (IMDG) : 223, 274
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E1
Packing instructions (IMDG) : P001
IBC packing instructions (IMDG) : IBC03
Tank instructions (IMDG) : T7
Tank special provisions (IMDG) : TP1, TP28
EmS-No. (Fire) : F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage) : S-B - SPILLAGE SCHEDULE Bravo - CORROSIVE SUBSTANCES
Stowage category (IMDG) : B
Properties and observations (IMDG) : Causes burns to skin, eyes and mucous membranes. Toxic if swallowed, by skin contact or by inhalation.

IATA

PCA Excepted quantities (IATA) : E1
PCA Limited quantities (IATA) : Y841
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 852
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 856
CAO max net quantity (IATA) : 60L
Special provisions (IATA) : A3, A803
ERG code (IATA) : 8P

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health, and environmental national regulations specific for the product

No additional information available

SECTION 16: Other information

Issue date : 10/09/2022

Full text of H-statements

H303	May be harmful if swallowed
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H401	Toxic to aquatic life
H411	Toxic to aquatic life with long lasting effects.

Safety Data Sheet (SDS), South Africa

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.