

# VILLA ESCULENTUS 720 EC

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT & COMPANY IDENTIFICATION

**Product Name:** ESCULENTUS 720 EC  
 Herbicide  
**UN No.:** 3006  
**Supplier:** Villa Crop Protection (Pty) Ltd.  
 PO Box 10413,  
 Aston Manor, 1620, South Africa  
**Telephone:** (011) 396 2233  
**Fax:** (011) 396 4666  
**Website:** [www.villacrop.co.za](http://www.villacrop.co.za)

**Emergency telephone:** +27 11 396 2233  
 (08:00 – 16:30)

**24 Hr Emergency Numbers:**  
 Bateleur: +27 83 1233 911 or  
 (Client: Villa Crop Protection) +27 860 333 911

**In case of Poisoning:**  
 Western Cape Poisons Tel. Service +27 861 555 777  
 Griffon Poison Information Centre +27 82 446 8946  
 Tygerberg Hospital +27 21 931 6129

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Common Name:** EPTC  
**Chemical Name:** S-ethyl dipropylthiocarbamate  
 (IUPAC)  
**CAS No.:** [759-94-4]  
**Chemical Family:** thiocarbamate  
**Chemical Formula:** C<sub>9</sub>H<sub>19</sub>NOS (Mol. wt.: 189.3)  
**Formulation:** EPTC: 720 g/l  
 With dichlormid  
 Emusifiable concentrate

**Hazardous ingredients of toxicological concern:**

Inert:	concern:	% present:
EPTC	toxic if swallowed	72 %
Solvent (Xylene)	environmental hazard	7 %

Severe irritant skin and eyes

**Use / Mode of Action:** Selective systemic herbicide, absorbed by the roots and shoots, with translocation acropetally to the leaves and stems. Applied pre-emergence and incorporated into the soil, immediately after application. Kills germinating weed seeds and inhibits bud development.

**Hazardous Ingredient:** EPTC  
**SYMBOLS:** Xn, Xi  
**Indication of danger:** Harmful and irritating substance.

**RISK-PHRASE(S):** R20/22, R36/37/38, R41

## 3. HAZARD IDENTIFICATION

**Toxicity class:** WHO II (a.i.), EPA III (formulation).  
**Likely routes of exposure:** Skin contact, ingestion, and inhalation. The product is a cholinesterase inhibitor.  
**Ingestion:** Slightly toxic by ingestion.  
 Small amounts of product aspirated into the respiratory system during ingestion or vomiting, due to the solvent in product, may cause mild to severe pulmonary injury.  
**Inhalation:** Harmful by inhalation. May cause irritation to respiratory tract.  
**Eye contact:** Severe irritant. Cause, redness and tearing. May cause possible corneal injury.  
**Skin contact:** Moderate irritant. Cause redness, itching or burning after prolonged contact. Cause mild sensitization.

## 4. FIRST AID MEASURES AND PRECAUTIONS

The product is a mild cholinesterase inhibitor. Symptoms may include salivation, sweating, headache, nausea, muscle twitching, tremors, in-coordination, blurred vision, abdominal cramps, diarrhoea and chest discomfort.

### FIRST AID:

**Skin contact:** Remove contaminated clothing, shoes and leather goods immediately. Wash contaminated areas with soap and water followed by alcohol. Emergency personnel should wear gloves and avoid contamination. If redness, itching or burning sensations develop, get medical attention immediately.

**Eye contact:** Flush eyes with lukewarm, gently flowing water for at least 20 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. If irritation, redness or burning sensations develop, get medical attention immediately.

**Inhalation:** Remove from exposure area to fresh air immediately. If breathing has stopped, give mechanical artificial respiration (not direct mouth-to-mouth). Keep affected person warm and at rest. Get medical attention immediately.

**Ingestion: Do not induce vomiting due to the solvent.** Do not give anything by mouth. Obtain medical attention immediately. If the person is alert, rinse mouth thoroughly with water. If vomiting occurs, keep head below hips to prevent aspiration.

Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. Apply mouth-to-nose respiration. Qualified medical personnel should administer oxygen.

Do not give anything by mouth to an unconsciousness person. **Take the person to a physician immediately.**

**Advice to physician:** No specific antidote is available if the product is ingested. This product contains material that may cause severe pneumonitis if aspirated. If

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ingested, perform gastric lavage; with the aid of cuffed endotracheal tube using isotonic saline or 5 % sodium bicarbonate follow with activated charcoal. Establish and maintain airway. Treat respiratory difficulty with artificial respiration and oxygen. If cholinesterase inhibition is suspected, atropine by injection is antidotal. **Do not give morphine, aminophylline, phenothiazines, reserpine, furosemide, or ethacrynic acid. Pralidoxime (2-PAM, Protopam) and other oximes are contra-indicated and SHOULD NOT BE USED.**

### 5. FIRE FIGHTING MEASURES

**Fire hazard:** **Flash point:** > 97°C (Setaflash CC method). This product will support combustion and may decompose when exposed to heat or flame to give off toxic materials.

**Hazardous decomposition products:** Decomposes in fire, and generates irritating and toxic gases.

**Extinguishing agents:** Extinguish fires with carbon dioxide, dry powder, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock. Contain water used for fire fighting for later disposal. Do not get water inside the containers. Runoff to sewers could create fire or explosion hazard.

**Firefighting:** Keep upwind. Remove container from fire area if possible. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Contain fire control agents for later disposal. Use a recommended extinguishing agent for the type of surrounding fire. Avoid inhaling hazardous vapours. Keep upwind. Consider evacuation of downwind area if material is leaking.

**Personal protective equipment:** Fire may produce irritating or poisonous vapours, mists or other products of combustion. Fire-fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

### 6. ACCIDENTAL RELEASE MEASURES (SPILLAGE)

**Personal precautions:** Avoid contact with skin and eyes. Do not breathe in mist or fumes. For personal protection see Section 8.

**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.

**Occupational spill:** Do not flush with water. Eliminate all ignition sources (smoking, flares, sparks or flames) in the immediate area. Earth all equipment used when handling the product. Do not touch or walk through spilled material. Stop leak if you can do so without risk.

Absorb or cover with dry earth or sand or other suitable non-combustible absorbent, and transfer to labelled

containers. Use clean non-sparking tools to collect absorbed material.

In situations where product comes in contact with water, contain contaminated water for later disposal. Do not flush spilled material into drains. Keep spectators away.

### 7. HANDLING AND STORAGE REQUIREMENTS

**Handling:** Toxic if swallowed. Avoid contact with eyes and skin, and inhalation of mist and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Operators should change and wash clothing daily. Remove clothing immediately if the insecticide gets inside. Then wash skin thoroughly using a non-abrasive soap and put on clean clothing. 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.

**Storage:** Stable for up to 2 years when stored under dry normal warehouse conditions.

The product must be kept under lock and key. Keep out of reach of unauthorised persons, children and animals. Store in its original labelled container in isolated, dry, cool and well-ventilated area. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

### 8. EXPOSURE CONTROL / PERSONAL PROTECTION

It is essential to provide adequate ventilation. The measures appropriate for a particular work site depend on how this material is used and on the extent of exposure. 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.

**Respirator:** An approved respirator suitable for protection from vapours and mists of pesticides is required. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

**Clothing:** Employee must wear appropriate protective (impervious) clothing and equipment to prevent skin contact with the substance.

**Gloves:** Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

**Eye protection:** The use of full face protection is recommended.

**Emergency eye wash:** 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

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appropriate alternative within the immediate work area for emergency use.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Homogenous, slight yellow, amber liquid with organosulphurous odour.  
**Flash point:** > 97 °C (Setaflash closed cup).  
**Specific gravity:** 0.9601 ± 0.01 g/cm<sup>3</sup> at 20°C.  
**pH:** 5.0 to 8.0.  
**Corrosiveness:** Non-corrosive.

### 10. STABILITY AND REACTIVITY

**Stability:** Stable for up to 2 years under normal warehouse and field conditions. Avoid extreme temperatures.  
**Incompatibility:** Incompatible with strong acid, alkaline and oxidising agents.  
**Hazardous decomposition products:** Decomposes in fire and generate toxic products which may include hydrocarbons, oxides of carbon, sulphur and nitrogen.

### 11. TOXICOLOGICAL INFORMATION

**Acute oral LD<sub>50</sub>:** 1652 mg/kg in rats.  
**Acute dermal LD<sub>50</sub>:** > 4000 mg/kg in rats.  
**Acute inhalation LC<sub>50</sub>:** *Technical:* 3.8 mg/ℓ (4 hours) for rats.  
**Skin irritation:** Moderately irritant (rabbit).  
**Eye irritation:** Severe eye irritant (rabbit).  
**Skin sensitisation:** Sensitizer.  
**Reproductivity:** It is not likely that **EPTC** will cause reproductive effects in humans under normal circumstances.  
**Carcinogenicity:** In a two-year feeding and oncogenicity study, **EPTC** in mice, no excess tumours were seen at doses of up to 20 mg/kg/day. The available evidence suggests that **EPTC** is not carcinogenic.  
**Teratogenicity:**  
 No effects were observed in a teratogenic study in which rats were given 300 mg/kg/day. The available evidence suggests that **EPTC** is not teratogenic.  
**Mutagenicity:**  
 In a number of assays, **EPTC** was not mutagenic.

### 12. ECOLOGICAL INFORMATION

**Degradability:** **EPTC** is of low persistence in the soil environment, with half-life of 6 to 32 days. It is not strongly bound to soils. Microbial breakdown and volatilisation are the main mechanisms. Due to short half-life, **EPTC** is not a threat to **groundwater**.

**EPTC** is readily absorbed by the roots of **plants** and translocated upward to the leaves and stems. **EPTC** is rapidly metabolised by plants to carbon dioxide and naturally occurring plant constituents.

In rats, low oral amounts of **EPTC** (approximately 0, 6 mg) were mainly eliminated via expired air, and much smaller amounts were eliminated via the urine and feces.

### ECOTOXICOLOGY:

**Birds: Slightly too relatively non-toxic.**

LC<sub>50</sub> (7-day diet) bobwhite quail: 20 000 mg/kg

**Fish: Slightly toxic.** LC<sub>50</sub> (96 hr): Rainbow trout:  
19 mg/ℓ

Bluegill sunfish: 14 mg/ℓ

**Bees: Non-toxic to bees.** LD<sub>50</sub>: 0.011 mg/bee.

**Daphnia:** LC<sub>50</sub> (48 hours): 14 mg/ℓ.

### 13. DISPOSAL CONSIDERATION

**Pesticide disposal:** Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal. Do not contaminate rivers, dams or any other water sources with the product or used containers.

**Package product wastes:** Emptied containers retain vapour and product residues. Observe all labelled safeguards. **TRIPLE RINSE** empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow draining for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of a third of that of the container. Add the rinsing to the contents of the spray tank before destroying the container. Destroy the emptied containers by perforation and flattening. Bury in an approved dumpsite. Do not re-use the empty container for any other purpose.

### 14. TRANSPORT INFORMATION

**UN NUMBER:** 3006

**Road Transport ADR/IRD:**

Class: 9

Packaging group: III

Shipping name: Thiocarbamate Pesticide, Liquid, Toxic. (**EPTC** 720 g/ℓ)

**Air Transport ICAO/IATA:**

Class: 9

Packaging group: III

Shipping name: Thiocarbamate Pesticide, Liquid, Toxic. (**EPTC** 720 g/ℓ)

**Maritime Transport IMDG/IMO:**

Class: 9

Packaging group: III

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Shipping name: Thiocarbamate Pesticide, Liquid,  
Toxic. (EPTC 720 g/l)

### 15. REGULATORY INFORMATION

**Symbol:** Xn, Xi  
**Indication of danger:** Harmful and irritating  
substance.

**Risk phrase(s):**

**R 20/22** Harmful by inhalation and if swallowed.

**R 36/37/38** Irritating to eyes, respiratory system and  
skin.

**R 41** Risk of serious damage to eyes.

**Safety phrases:**

**S 1/2** Keep locked up and out of reach children.

**S 20/21** When using do not eat, drink or smoke.

**S 23** Do not breathe vapour/spray.

**S 24/25** Avoid contact with skin and eyes.

**S 36/37/39** Wear suitable protective clothing, gloves  
and eye/face protection.

**S 45** In case of accident or if you feel unwell,  
seek medical advice immediately (show the  
label where possible).

### 16. OTHER INFORMATION

**Packing and Labelling**

Packed in 1, 5, 10, 20, 25, 50 & 200 litres fluorinated  
plastic containers and drums, labelled according to the  
South African regulations and guidelines.

**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  
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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