

# CARBOSTEM 480 EC

# SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** CARBOSTEM 480 EC  
**Other identifier:** Carbosulfan 480 EC  
**Recommended use:** Insecticide  
**Restrictions on use:** (Agriculture); May only be sold and used by a registered pest control operator.

**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>		
Oral	Acute Toxicity 4	H302
Aspiration hazard	Aspiration Toxicity 1	H304
Dermal	Acute Toxicity 5 Skin Irritation 3 Skin Sensitisation 1	H313 H316 H317
Eye	Eye Damage 1	H318
Inhalation	Acute Toxicity 2	H330
<b>Environment</b>		
Aquatic acute	Aquatic acute 1	H400
Aquatic chronic	Aquatic chronic 1	H410

**The most important adverse effects:**  
**Physiochemical effects:** None known.  
**Human health effects:**  
 Fatal if inhaled.  
 May be fatal if swallowed and enters airways.  
 Causes serious eye damage.  
 Causes mild skin irritation.

May cause an allergic skin reaction.

### Label elements:



**Signal word:** Danger

### Hazard statements:

H302: Harmful if swallowed.  
 H304: May be fatal if swallowed and enters airways.  
 H313: May be harmful in contact with skin.  
 H316: Causes mild skin irritation.  
 H317: May cause an allergic skin reaction.  
 H318: Causes serious eye damage.  
 H330: Fatal if inhaled.  
 H400: Very toxic to aquatic life.  
 H410: Very toxic to aquatic life with long lasting effects.

### Precautionary statements:

P260: Do not breathe fumes, mist, vapours, or spray.  
 P264+P265: Wash hands thoroughly after handling. Do not touch eyes.  
 P270: Do not eat, drink or smoke when using this product.  
 P271: Use only outdoors or in a well-ventilated area.  
 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.  
 P284: In case of inadequate ventilation wear respiratory protection.  
 P301+P304+P316: IF SWALLOWED OR INHALED: Get emergency medical help immediately.  
 P302+P332+P317: IF ON SKIN or skin irritation or rash occurs: Get medical help.  
 P302+P352: IF ON SKIN: Wash with plenty of water and non-abrasive soap.  
 P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P354+P338+P317: IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.  
 P330: Rinse mouth.  
 P331: Do NOT induce vomiting.  
 P391: Collect spillage.  
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P405: Store locked up.  
 P501: Dispose of content/container to suitable landfill in accordance with local regulations.

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**Other hazards:**

None known.

**Toxicity:**

Classification according to GHS: Category 2

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

**Substance / Mixture:** Mixture

Composition:

Chemical name	CAS	Conc. (%m/v)	Classification EC 1272/2008
Carbosulfan	55285-14-8	48%	Acute Toxicity 3 (H301) Skin Sensitisation 1 (H317) Acute Toxicity 2 (H330) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)
Emulsifier	68953-96-8	<10%	Acute Toxicity 4 (H312) Skin Irritation 2 (H315) Eye Damage 1 (H318) Aquatic chronic 2 (H411)
Solvent	64742-94-5	<40%	Aspiration Toxicity 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 immediately.**

**Skin:** Remove contaminated clothing, shoes and leather goods. Gently wipe off excess chemical. Wash skin gently and thoroughly with water and non-abrasive soap.

**Obtain medical attention if irritation occurs.**

**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 immediately** or call a poison control centre for treatment advice. **Do not induce vomiting due to the aromatic solvent.** Do not give anything by mouth to an unconscious person. If the person is alert, rinse mouth thoroughly with water.

**Anticipated acute effects:**

Toxic if inhaled.

May be fatal if swallowed and enters airways.

Causes serious eye damage.

Causes mild skin irritation.

May cause an allergic skin reaction.

**Anticipated delayed effects:** None known.

**Most important symptoms / effects:** Breathing difficulties, sweating, slow pulse, headache, blurred vision, muscle twitching and constriction of pupils.

**Advice to physician:** This product is a cholinesterase inhibitor carbamate. Administer 2 to 4 mg atropine sulphate intravenously, repeated at 10 minute intervals until atropinisation appears. Do not use morphine, oximes such as 2 PAM. If in eye install one drop of homotropine. Treat symptomatically and supportively. Keep patient under observation. If product is aspirated into the lungs during ingestion or vomiting, chemical pneumonia may be caused. If vomiting occurs, prevent vomit from being inhaled.

### 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:** Fire may produce irritating or poisonous vapours (hydrogen chloride, hydrogen cyanide, carbon monoxide, nitrogen oxides).

**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: Do not breathe in spray mist or vapours.** May be fatal if swallowed and enters airways.

Avoid contact with skin and eyes. 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.

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**Environmental Precautions:** Prevent spilled product from entering sewers, waterways or ground water. This product is classified as very 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: Do not breathe in spray mist or vapours.** May be fatal if swallowed and enters airways. 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 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:** Fluorinated plastic containers.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

**Permissible concentration:**

Components	Exposure limits	Type of exposure limit	Source
Carbosulfan	0.1 mg/m <sup>3</sup>	8-hour TWA	BEI

**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:** Employees must wear a NIOSH approved, air-purifying respirator with cartridges / canisters approved for organic vapours.

**Hand Protection:** Employees must wear chemically protective gloves to prevent against skin contact.

**Eye Protection:** Employees must wear chemical safety goggles to prevent against eye contact. Contact lenses are not protective eye devices.

**Skin and Body Protection:** Employees must wear appropriate protective 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:** Amber liquid, emulsifiable concentrate.

**Odour:** Aromatic hydrocarbon odour.

**Odour threshold:** Not available

**pH (1% aqueous dilution):** 5.5 – 7.5

**Melting point:** Not available.

**Freezing Point:** Not available.

**Boiling Point:** Not available.

**Flash Point:** Not available.

**Flammability:** Not flammable.

**Upper / lower explosion limits:** Not explosive.

**Vapour Pressure (mm Hg):** Not available.

**Relative Vapour Density:** Not available.

**Density / Relative density:** 0.98

**Solubility:** Emulsifies in water.

**n-octanol / water partition coefficient:** Not available.

**Auto-ignition temperature:** Not available.

**Decomposition temperature:** Not available.

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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.

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

**Hazardous decomposition products:** Thermal decomposition generates poisonous and irritating vapours and fumes which may contain: Carbon dioxide, carbon monoxide, nitrogen oxides, chlorides.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY:

Calculated according to GHS:

**Oral LD<sub>50</sub> (24h)** >300 mg/kg (rat)

**Dermal LD<sub>50</sub>** >3 600 mg/kg (rat)

**Inhalation LC<sub>50</sub> (4h)** >0.24 mg/l (rat)

**Skin Irritation / Corrosion:** Causes mild skin irritation.

**Eye Damage / Irritation:** Causes serious eye damage.

**Skin Sensitization:** May cause an allergic skin reaction.

**Respiratory Sensitization:** Not classified.

**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:** Not classified.

**Aspiration hazard:** May be fatal if swallowed and enters airways.

**Chronic Effects:** Not available.

### POTENTIAL ADVERSE EFFECTS:

**Inhalation:** Fatal if inhaled.

**Ingestion:** Harmful if swallowed. May be fatal if swallowed and enters airways.

**Skin:** May be harmful in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.

**Eyes:** Causes serious eye damage.

**Other information:** None.

## 12. ECOLOGICAL INFORMATION

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

## ECOTOXICITY DATA:

### Carbosulfan

#### Fish:

LC <sub>50</sub> (96 h)	Trout	0.042 mg/l
	Bluegill sunfish	0.015 mg/l

#### Daphnia:

LC <sub>50</sub> (48 h)		1.5 µg/l
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#### Algae:

EC <sub>50</sub> (96 h)		20 mg/l
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#### Birds:

Acute oral LD <sub>50</sub>	Quail	82 mg/kg
	Mallard ducks	10 mg/kg
	Pheasants	20 mg/kg

#### Bees:

LD <sub>50</sub> contact (24 h)		0.28 µg/bee.
LD <sub>50</sub> oral (24 h)		1.046 µg/bee.

## ENVIRONMENTAL EFFECTS:

**Based on information for the active ingredient.**

**Plants:** Metabolites include carbofuran and 3-hydroxycarbofuran.

**Persistence and degradability:** Rapidly degraded in soil under aerobic and anaerobic conditions. DT<sub>50</sub> c. 3-30 days.

**Bio-accumulative Potential:** Log K<sub>ow</sub> 5.4. Rapidly metabolised and rapidly excreted.

**Mobility in soil:** Unlikely to leach to groundwater.

**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.

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## 14. TRANSPORT INFORMATION

**UN Number: 2992**

**Road Transport ADR / ORD:**

Class: 6.1  
 Packaging group: II  
 UN Proper Shipping Name: CARBAMATE  
 PESTICIDE, LIQUID, TOXIC (carbosulfan 480 g/l)

**Maritime Transport IMDG / IMO:**

Class: 6.1  
 Packaging group: II  
 UN Proper Shipping Name: CARBAMATE  
 PESTICIDE, LIQUID, TOXIC (carbosulfan 480 g/l)

**Marine pollutant (Y/N):** Yes.

**Air Transport IATA / ICAO:**

Class: 6.1  
 Packaging group: II  
 UN Proper Shipping Name: CARBAMATE  
 PESTICIDE, LIQUID, TOXIC (carbosulfan 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

**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 5, 10 and 20 litres fluorinated plastic containers labelled according to South African regulations and guidelines.

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

**H301:** Toxic if swallowed.

**H315:** Causes skin irritation.

**H312:** Harmful in contact with skin.

**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.

**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.

**BEI:** Biological Exposure Indices

**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.