


## Safety Data Sheet

### CARBOSTEM - Reg. No: L 7859 (Act No 36 of 1947)

Date of issue: 23/08/2008

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1) PRODUCT AND COMPANY IDENTIFICATION	
Product name:	CARBOSTEM
Other means of identification:	Carbosulfan 480 g/L EC
UN number:	2991
Recommended use:	Insecticide.
Restrictions on use:	No information available
Distributed by:	MERIDIAN AGRITECH P O BOX 436 MODDERFONTEIN TEL 011 8228509 FAX 0866901386 MOBILE: 0834006056 www.agritech.co.za
Emergency Number:	POISON CENTRE (UNITAS HOSPITAL) 012 664 1100 TYGERBERG: 021 931 6129 RED CROSS: 021 689 5227 RAPID SPILL RESPONSE 0800 775 3305 GRIFFON POISON CENTRE: 082 446 8946
Chemical Name:	2,3-dihydro-2,2-dimethyl-7-benzofuranyl[(dibutylamino)thio]methylcarbamate
2) Classification of the substance / mixture	
Classification of the product is based on the co-formulants listed in section 3.	N – Dangerous for the environment T – Toxic Xi – Irritant  R23/25 R26/28 R36/38 R43 R50/53 R65  Full text of symbols and R-phrases: see section 15.
Label elements:	Hazard symbols: T – Toxic Xi – Irritant    Signal word: Toxic
Health effects: eyes:	Irritant.
Health effects: skin:	Irritant
Health effects: ingestion	Toxic if swallowed. May cause lung damage if swallowed.
Health effects: inhalation	Toxic by inhalation
Health effects: Other	May cause sensitization by skin contact.
3) COMPOSITION / INFORMATION ON INGREDIENTS:	

**Mixture :**

Chemical name	Composition (g/L)	CAS No.	EC No.	CLP Classification	DSD Classification
Carbosulfan	480	55285-14-8	259-656-9	Acute Tox. 3, H301 Skin Sens. 1, H317 Acute Tox. 2, H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	T+; R26 T; R25 R43 N; R50-53
Carbofuran		1563-66-2	216-353-0	Acute Tox. 2, H300 Acute Tox. 2, H330 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	T+; R26/28 N; R50-53

Full text of R- and S-phrases: see section 15.

**4) First Aid Measures:****Eye contact:**

Health effects: eyes: Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. Remove clothing if contaminated and wash skin. **Seek medical assistance immediately.**

**Skin contact:**

Immediately wash contaminated skin with plenty of soap and water. Remove contaminated clothing and wash before re-use. The component carbosulfan can be absorbed through the skin with resultant toxic effects. If poisoned by skin absorption administer atropine 2 – 4 mg intravenously every 10 minutes until atropinisation occurs. **Seek medical assistance immediately.**

**Ingestion**

Rinse mouth with water. If swallowed give one atropine tablet every 5 minutes until dryness of the mouth occurs. Never give anything by mouth to an unconscious patient. **Seek medical assistance immediately.**

**Inhalation:**

Remove victim from exposure - avoid becoming a casualty. Remove contaminated clothing and loosen remaining clothing. If poisoned by absorption through lungs administer atropine 2 – 4 mg intravenously every 10 minutes until atropinisation occurs. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing is laboured and patient appears cyanotic (blue), ensure airways are clear and have a qualified person give oxygen through a face mask. If breathing has stopped apply artificial respiration at once. In the event of cardiac arrest, apply external cardiac massage. **Seek medical assistance immediately.**

**Most important symptoms and effects, acute and delayed:**

None known.

**Indication of immediate medical attention and special treatment needed: Advice to physician**

Further medical treatment: If poisoning is suspected, do not wait for symptoms to develop. Contact a physician, the nearest hospital, or the nearest Poison Center.

**5) Fire-Fighting Measures:****Suitable extinguishing media:**

Water fog (or if unavailable fine water spray), foam, dry agent (carbon dioxide, dry chemical powder).

**Unsuitable extinguishing media:**

Water jet, due to contamination risk.

**Special hazards arising from the substance or mixture:**

Generating poisonous and corrosive fumes such as carbon oxides, nitrous gases and hydrogen chloride. Keep upwind.

<p><b>Fire Fighting:</b></p> <p><b>Protective clothing:</b></p>	<p>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. If area is heavily exposed to fire and conditions permit, let fire burn itself out. 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. Do not scatter the material. Avoid pollution of waterways.</p> <p>Full protective clothing and positive-pressure self-contained breathing apparatus</p>
<p><b>6) Accidental Release Measures:</b></p>	
<p><b>Personal precautions:</b></p> <p><b>Environmental precautions:</b></p> <p><b>Cleaning procedure:</b></p> <p><b>Disposal</b></p>	<p>Wear personal protective clothing according to operator safety during removal of spillage. Wear eye protection, chemically resistant gloves, boots and protective overalls. In case of insufficient ventilation wear suitable respiratory equipment. Do not eat, drink or smoke whilst using or mixing the product. For personal protection see Section 8.</p> <p>Do not contaminate waterways, drains and groundwater. If contamination of waterways, drains, rivers or lakes is unavoidable, warn the local authorities (Police and Department of Water/Environmental affairs) immediately.</p> <p>LARGE SPILLS : Shut off all possible sources of ignition. Avoid accidents, clean up immediately. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contamination and inhalation of vapour. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand, or other inert material). Collect and seal in properly labelled drums for disposal. To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally wash with a strong soap and water solution. Absorb any excess solution with the use of an absorbent, and add both solutions to the drums of waste already collected. If contamination of crops or waterways has occurred advise emergency services or State Department of Agriculture. SMALL SPILLS: Wear protective equipment to prevent skin and eye contamination and inhalation of vapour. Contain-prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers for disposal. Wash area down with detergent and excess water.</p> <p><b>Waste Disposal:</b></p> <p>In accordance with local and national regulations. Do not contaminate water, food or feed by disposal. Spilled product cannot be re-used and must be disposed of by incineration or disposal in a chemical waste disposal facility.</p> <p><b>Container Disposal:</b> Refer to the product label for instructions. Emptied containers retain vapour and product residues, therefore observe all labelled safeguards until the container is destroyed. If containers cannot be recycled, they should be disposed of together with the waste chemical. If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product. DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE. Do not transport if this container is damaged or leaking.</p>

<b>7) Handling &amp; Storage:</b>	
<b>Handling:</b>	Do not breathe vapour or mist. Do not get in eyes, on skin or on clothing. Observe all warnings and precautions listed for the product. Do not contaminate water, fertilizer, food or feed in storage.
<b>Storage:</b>	Keep in tightly closed container in a shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Protect against physical damage. Packaging: Packed in 1 kg aluminium bags with inner liner and labelled according to relatively regulations
<b>8) Exposure Control / Personal Protection:</b>	
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. In general, dilution ventilation is a satisfactory health hazard control for this substance.	
<b><u>PERSONAL PROTECTIVE EQUIPMENT:</u></b>	Consult supplier to confirm that the equipment is suitable.
<b>Clothing:</b>	Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance. Wear chemically resistant boots and coveralls.
<b>Gloves:</b>	Employee must wear appropriate chemical-resistant gloves to prevent contact with this substance.
<b>Eye protection:</b>	Use chemical safety goggles and/or full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.
<b>Respiratory protection</b>	Wear suitable respiratory equipment, especially during spraying, such as a face mask
<b>Emergency eye wash:</b>	Where there is any possibility that an employee may be exposed to this substance, the employer should provide an eye wash fountain and quick-drench facilities or appropriate alternative within the immediate work area for emergency use.
<b>9) Physical &amp; Chemical Properties:</b>	
<b>Form:</b>	Liquid
<b>Colour:</b>	Aromatic hydrocarbon odour
<b>Odour</b>	Amber
<b>Odour threshold</b>	Not determined
<b>Solubility:</b>	Emulsifiable in water.
<b>pH:</b>	6.5
<b>Melting point / Freezing point</b>	No data available
<b>Initial boiling point and boiling range</b>	> 120°C.
<b>Flash point:</b>	>23 C (close cup).
<b>Evaporation rate:</b>	No data available
<b>Flammability (solid, gas)</b>	Combustible liquid.
<b>Upper/ lower flammability or explosive limits:</b>	No data available
<b>Vapour pressure:</b>	No data available
<b>Vapour density:</b>	No data available
<b>Relative density:</b>	No data available
<b>Solubility(ies)</b>	Emulsifiable in water.
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature:</b>	No data available
<b>Viscosity:</b>	Combustible liquid.
<b>10) Stability &amp; Reactivity</b>	
<b>Reactivity</b>	Not available
<b>Chemical Stability :</b>	When stored appropriately this product should show no significant degradation for 2 years from the date of manufacture.

<b>Hazardous decomposition product(s):</b>	High temperatures of fire may produce irritating gases & vapors.
<b>Conditions to avoid:</b>	Avoid extreme heat and cold. Keep out of reach of children.
<b>Incompatible materials:</b>	Strong basic, acidic or oxidizing materials.

#### 11) Toxicological Information:

Acute:

Oral LD50	>105 mg/kg, rat.
Dermal LD50	> 2 000 mg/kg, rabbit
Inhalation	1.08-1.78 mg/L/1 hour rat
Skin irritation	: Moderate irritant (rabbit).
Eye irritation	: Moderate irritant (rabbit).
Sensitisation	: Moderate irritant (rabbit).
Other	: N/A

#### 12) Ecological Information:

**Information below based on active ingredient:**

**Bees:** Toxic to bees.

**Birds:** Oral LD<sub>50</sub>: 8.1-82 mg/kg.

**Fish** : Very toxic to aquatic organisms. 96hr LC50 (bluegill sunfish): 0.015 mg/L. 96hr LC50 (trout): 0.045 mg/L.

**Algae** : N/A

**Worms:** N/A

**Other aquatic species:** N/A

Persistence and Degradability:

Carbosulfan is rapidly degraded in neutral soil (half-life > 5 days) with the degradation rate increasing as pH decreases. A major breakdown product is carbofuran which degrades more slowly (half-life approximately 30 days). Carbosulfan and its major breakdown products are unlikely to leach to groundwater.

Biodegradation: No data available.

Bioaccumulative potential: Product does not bioaccumulate

PBT: No data available.

vPvB: No data available.

Other adverse effects: No further information available.

#### 13) Disposal Considerations:

##### Waste Disposal :

**LARGE SPILLS:** Shut off all possible sources of ignition. Avoid accidents, clean up immediately. Clear area of all unprotected personnel. Wear protective equipment to prevent skin and eye contamination and inhalation of vapour. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand, or other inert material).

Collect and seal in properly labelled drums for disposal.

To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally wash with a strong soap and water solution. Absorb any excess solution with the use of an absorbent, and add both solutions to the drums of waste already collected.

If contamination of crops or waterways has occurred advise emergency services or Department of Agriculture. **SMALL SPILLS:** Wear protective equipment to prevent skin and eye contamination and inhalation of vapour. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers for disposal. Wash area down with detergent and excess water.

In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Refer to the product label for instructions.

Container Refilling and Disposal:

If the container is to be refilled, do not rinse with any material or introduce any pesticide other than this product.

**DO NOT REUSE THE CONTAINER FOR ANY OTHER PURPOSE,** perforate and flatten.

Do not transport if this container is damaged or leaking.

#### 14) Transportation Information:

##### IMO hazardous description:

UN: 2991  
ADNR classification: 6.1  
Toxicity class: II  
Packing group: II  
Hazard labels: Xn, Xi

Proper shipping name: Carbamate pesticide, liquid, toxic, flammable, flashpoint not less than 23 °C (Contains Carbosulfan)

**Segregation dangerous goods:**

Not to be loaded with explosives (Class 1), nitromethane, food and food packaging in any quantity, however exemptions may apply. Also note that fire risk substances including dangerous goods of Class 6 or Class 9 which are fire risk substances are incompatible with dangerous goods of Class 1, Class 5.1 and Class 5.2.

**Marine transport:**

UN: 2991  
ADNR classification: 6.1  
Toxicity class: II  
Packing group: II  
Hazard labels: Xn, Xi

Proper shipping name: Carbamate pesticide, liquid, toxic, flammable, flashpoint not less than 23 °C (Contains Carbosulfan)

**Air transport:**

UN: 2991  
ADNR classification: 6.1  
Toxicity class: II  
Packing group: II  
Hazard labels: Xn, Xi

Proper shipping name: Carbamate pesticide, liquid, toxic, flammable, flashpoint not less than 23 °C (Contains Carbosulfan)

**15) Regulatory Information:**

**Symbol(s):** N – Dangerous for the environment  
T – Toxic  
Xi – Irritant

**R-phrase(s):**

R23/25 – Toxic by inhalation and if swallowed.  
R26/28 – Very toxic by inhalation and if swallowed.  
R36/38 – Irritating to eyes and skin.  
R43 – May cause sensitization by skin contact.  
R50/53 – Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
R65 – Harmful: May cause lung damage if swallowed.

**S-phrase(s):**

S1/2 – Keep locked up and out of the reach of children.  
S13 – Keep away from food, drink and animal foodstuffs  
S28 – After contact with skin, wash immediately with plenty of water.  
S38 – In case of insufficient ventilation, wear suitable respiratory equipment.  
S36/37/39 – wear suitable protective clothing, gloves and eye/face protection.  
S45 – in case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)  
S60 - This material and its container must be disposed of as hazardous waste.  
S61 - Avoid release to the environment. Refer to special instructions/ Safety data sheets.  
S63 - In case of accident by inhalation: remove casualty to fresh air and keep at rest.

**Hazard Statements:**

H300 – Fatal if swallowed  
H301 – Toxic if swallowed  
H317 – May cause an allergic skin reaction  
H330 – Fatal if inhaled  
H400 – Very toxic to aquatic life  
H410 – Very toxic to aquatic life with long-lasting effects

**16. Other Information**

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS and are presented in good faith and believed to be correct. This information applies to the product as such. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear.

It is the responsibility of persons in receipt of this SDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with this product. If the recipient subsequently produces formulation(s) containing this product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from this SDS to their own SDS.

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