

KARBA 850 WP

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: KARBA 850 WP
Other identifier: KARBA 850 WP
Recommended use: Insecticide
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 Tox. 2 | H300 |
| Dermal | Acute Tox. 2 | H310 |
| Inhalation | Acute Tox. 4 | H332 |
| Carcinogenicity | Carc. 2 | H351 |
| Environment | | |
| Aquatic acute | Aquatic acute 1 | H400 |

The most important adverse effects:

Physiochemical effects: None known

Human health effects: Fatal if swallowed, fatal in contact with skin, harmful if inhaled, suspected of causing cancer and very toxic to aquatic life.

Label elements:



Signal word: Danger

Hazard statements:

H300: Fatal if swallowed

H310: Fatal in contact with skin

H332: Harmful if inhaled

H351: Suspected of causing cancer

H400: Very toxic to aquatic life

Precautionary statements:

P203: Obtain, read and follow all safety instructions before use.

P261: Avoid breathing dust, fume, gas, mists, vapours or spray.

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash hands and face thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P271: Use only outdoors or in a well-ventilated area.

P273: Avoid release into the environment.

P280: Wear impervious rubber gloves and boots, protective clothing and chemical safety goggles.

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER.

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.

P318 +P317: If+ exposed or concerned, get medical advice.

P330: Rinse mouth.

P361+P364: Take off immediately all contaminated clothing and wash before reuse.

P391: Collect spillage.

P405: Store locked up.

P501: Dispose of content/container to suitable landfill in accordance with local regulations.

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/m %) | Classification EC 1272/2008 |
|---------------|-----|---------------|-----------------------------|
| | | | |

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| | | | |
|--|----------------|------------|---|
| Carbaryl Technical 99% | 63-25-2 | 85.86 % | Acute Tox. 4 Acute Tox. 4 Carc. 2 Aquatic Acute 1 |
| Silicon dioxide | 7631- 86-9 | < 10 % | Aquatic Chronic 4 |
| Calcium lignosulfonate | 8061- 52-7 | < 5 % | N/A |
| Sodium diisobutyl naphthalene | 27213- 90-7 | < 1 % | Acute Tox. 4 Skin Irrit. 2 Eye Irrit. 2 Acute Tox. 4 Aquatic Chronic 3 |
| Sodium polynaphthalene sulfonate | 9084- 06-4 | < 1 % | N/A |

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.

The product is a Cholinesterase inhibitor.

Inhalation:

Acute exposure:

When inhaled, the first effects of cholinesterase inhibition are usually respiratory and may include nasal hyperaemia and watery discharge, chest discomfort, dyspnea, and wheezing due to increased bronchial secretions and bronchoconstriction. Other systemic effects may begin within a few minutes or several hours of exposure. Symptoms may include nausea, vomiting, diarrhoea, abdominal cramps, headache, vertigo, ocular pain, ciliary muscle spasm, blurring or dimness of vision, miosis, or in some cases mydriasis, lacrimation, salivation, sweating, and confusion. Other reported central nervous system or neuromuscular effects include ataxia, slurred speech, weakness, fatigue, twitching, fasciculation, tremor, and eventually paralysis of the extremities and possibly of the respiratory muscles. In severe cases, there may also be involuntary defecation and urination, bradycardia, hypotension, pulmonary oedema, convulsions, coma, and death from respiratory failure or cardiac arrest. Carbaryl does not accumulate in mammalian tissue and the cholinesterase inhibition reverses rather rapidly. In

non-fatal cases, the illness generally lasts less than 24 hours.

Chronic exposure:

Prolonged or repeated exposure may cause effects as described in acute exposure.

First aid:

Remove from exposure area to fresh air immediately. If breathing has stopped, give mechanical artificial respiration (not direct mouth-to-mouth). Maintain airway and blood pressure and administer oxygen if available. Keep affected person warm and at rest. Treat symptomatically and supportively. Qualified personnel should perform administration of oxygen. Get medical attention immediately.

Skin:

Acute exposure:

Some compounds may cause irritation. Localised sweating and fasciculations may occur at the site of contact. If sufficient amounts are absorbed through the skin, other effects of cholinesterase inhibition may occur as described in acute inhalation. Symptoms may be delayed for 2-3 hours, usually no more than 8 hours.

Chronic exposure:

Repeated or prolonged exposure may cause effects as described in acute exposure.

First aid:

Remove contaminated clothing immediately. Wash contaminated areas with soap and water followed by alcohol. Emergency personnel should wear gloves and avoid contamination. Treat respiratory difficulty with mechanical artificial respiration. Get medical attention immediately.

Eyes:

Acute exposure:

Direct contact may cause pain, hyperaemia, and lacrimation, twitching of the eyelids, miosis, and ciliary muscle spasm with loss of accommodation, blurred or dimmed vision and browache. Sometimes mydriasis may occur instead of miosis. With sufficient exposure, other symptoms of cholinesterase inhibition may occur as described in acute inhalation.

Chronic exposure:

Prolonged exposure may cause effects as described in acute exposure. Some compounds have caused toxic effects on the crystalline lens, conjunctival thickening and obstruction of nasolacrimal canals when used as miotic eye drops.

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First aid:

Irrigate eyes with water or saline solution. If symptoms of poisoning occur, treat respiratory difficulty with mechanical artificial respiration and oxygen. Observe patient for at least 24-36 hours. Get medical attention immediately. Qualified medical personnel should administer oxygen.

Ingestion:

Acute exposure:

When ingested, the first effects may be nausea, vomiting, anorexia, abdominal cramps, and diarrhoea. With absorption from the gastrointestinal tract, the other effects of cholinesterase inhibition as described in acute inhalation may occur. Symptoms may begin within minutes or be delayed several hours.

Chronic exposure:

Repeated ingestion may cause effects as described in acute exposure.

First aid:

If person is alert and respiration is not depressed, give syrup of Ipecac followed by water (if vomiting occurs, keep head below hips to prevent aspiration). If consciousness level declines or vomiting has not occurred in 15 minutes empty stomach by 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.

Do not give morphine, aminophylline, phenothiazines, reserpine, furosemide, or ethacrynic acid. Drugs like 2 PAM are not effective in poisoning with Carbaryl AND They should not be used.

Treat symptomatically and supportively. Qualified medical personnel must perform administration of oxygen and gastric lavage. Get medical attention immediately.

Anticipated acute effects: Refer above.

Anticipated delayed effects: Refer above.

Most important symptoms / effects: Refer above.

Advice to physician:

Antidote:

The following antidote has been recommended. However, the decision as to whether the severity of poisoning requires administration of any antidote and actual dose required should be made by qualified medical personnel.

For cholinesterase inhibitors: Establish clear airway and tissue oxygenation by aspiration of secretions, and if necessary, by assisted pulmonary ventilation with oxygen. Improve tissue oxygenation as much as possible before administering atropine to minimise the risk of ventricular fibrillation. Administer atropine sulphate intravenously, or intramuscularly if iv injection is not possible. In moderately severe poisoning administer atropine sulphate, 0.4-2.0 mg repeated every 15 minutes, until atropinization is achieved (tachycardia, flushing, dry mouth, mydriasis). Maintain atropinization by repeated doses for 2-12 hours, or longer, depending on the severity of poisoning. The appearance of rales in the lung bases, miosis, salivation, nausea, bradycardia, are all indications of inadequate atropinization. Severely poisoned individuals may exhibit remarkable tolerance to atropine. Two or more times the dosages suggested above may be needed. Persons not poisoned or only slightly poisoned, however, may develop signs of atropine toxicity from such large dosages: fever, muscle fibrillations, and delirium are main signs of atropine toxicity. If these signs appear while the patient is fully atropinized, atropine administration should be discontinued, at least temporarily. Observe treated patients closely at least 24 hours to ensure that symptoms (possibly pulmonary oedema) do not recur as atropinization wears off. In very severe poisonings, metabolic disposition of toxicant may require several hours or days during which atropinization must be maintained. Markedly lower levels of urinary metabolites indicate that atropine dosage can be tapered off. As dosage is reduced, check the lung bases frequently for rales. If rales are heard or other symptoms return, re-establish atropinization promptly.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: Extinguish small fires with carbon dioxide, dry powder, Halon, water spray, or alcohol-resistant foam. Water spray can be used for cooling of unaffected stock, but avoid water coming in contact with the product. Contain water used for firefighting for later disposal

Unsuitable Extinguishing Media: Unknown

Specific hazards: Fire may produce irritating or poisonous vapours (sulphoxides), mists or other products of combustion.

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Special fire-fighting procedures: Move containers from fire area if possible. Fight fire from maximum distance. Stay away from storage tank ends. Contain fire control water for later disposal. Do not scatter material, extinguish only if flow can be stopped. Use flooding amounts of water as a fog as solid streams may be ineffective. Cool containers with flooding amounts of water as far a distance as possible. Use water spray to absorb toxic vapours. Avoid breathing toxic vapours. Keep upwind. Consider evacuation of downwind area if material is leaking

Personal protective equipment: Fire fighters and others that may be exposed should wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Avoid contact with skin and eyes. Do not breathe in dust or fumes.

Protective equipment: For personal protection see Section 8.

Emergency procedures: Keep spectators away. Isolate hazard area and deny entry. Ventilate closed spaces before entering.

Environmental Precautions: Do not allow entering drains or watercourses. When the product contaminates public waters, inform appropriate authorities immediately in accordance with local regulations.

Methods and Materials for Containment: Contain spilt product by diking area with sand or earth. For **small spills**, sweep up with sand or other suitable absorbent material, such as sawdust, and place into containers for later disposal. Move containers from spill area. For **larger spills**, contain material far ahead of spill for later disposal.

Methods and Materials for Clean-up: Do not touch spilled material. Stop leak if you can do so without risk. Use water spray to reduce vapours (contain any water used). 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 spilt material back in original container. Do not re-use spilt material. Collect washings and add to the drums already collected. Do not flush spilt 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: Toxic by inhalation or if swallowed. Avoid contact with eyes, prolonged contact with skin, and inhalation of dust and vapour. Use with adequate ventilation. Wash hands before eating, drinking, chewing gum, smoking, or using the toilet. Remove clothing immediately if this product 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. 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: Store in its original labelled container in shaded, well-ventilated area, away from heat, sparks and other sources of ignition. Not to be stored next to foodstuffs and water supplies. Local regulations should be complied with.

Conditions for safe storage: Keep under lock and key and out of reach of unauthorised persons, children and animals. Avoid cross contamination with other pesticides and fertilisers.

Incompatible substances and mixtures: Refer to product label.

Packaging material: 3ply Paper bags & Polyprop woven bags.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Permissible concentration:

No occupational exposure limits have been determined for the significant ingredients in this product.

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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. 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.

Respiratory Protection: An approved respirator suitable for protection from dusts and mists of pesticides is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Hand Protection: Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye Protection: The use of full-face protection is recommended.

Skin and Body Protection: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with the substance.

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: White to off-white powder.

Odour: Odourless.

Odour threshold: Not available.

pH (1% aqueous dilution): Not available.

Melting point: Not available.

Freezing Point: Not available.

Boiling Point: Not available.

Flash Point: > 193 °C (data for technical material).

Flammability: Not flammable.

Upper / lower explosion limits: Not applicable to solids.

Vapour Pressure (mm Hg): Not available.

Relative Vapour Density: Not available.

Density / Relative density: Not available.

Solubility: The product is a wettable powder.

n-octanol / water partition coefficient: Not available.
Auto-ignition temperature: Not applicable to solids.
Decomposition temperature: Not available.
Viscosity: Not applicable to solids.

10. STABILITY AND REACTIVITY

Chemical stability: Stable up to 2 years under normal storage conditions. Stable in neutral and acidic media but hydrolysed by concentrated alkalis to form 1-naphthol. Half-life is 12 days (pH 7) and 3.2 days (pH 9). The rate of decomposition increases at higher temperatures. Carbaryl is stable to light and heat.

Reactivity: None known.

Possibility of hazardous reactions: None known.

Conditions to avoid: The product should not be used if the soil or water have high pH values.

Incompatible materials: Compatible with most insecticides, fungicides and acaricides. Alkaline substances such as lime and Bordeaux mixture may reduce the activity of the product.

Hazardous decomposition products: Toxic oxides of nitrogen are released when the product decomposes on heating.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral LD₅₀ 33.86 mg/kg

Dermal LD₅₀ 53.44 mg/kg (rabbit)

Inhalation LC₅₀ (4h) > 3.4 mg/l (rat)

Skin Irritation / Corrosion: Not a skin irritant.

Eye Damage / Irritation: Not an eye irritant.

Skin Sensitization: Product is not a skin sensitizer.

Respiratory Sensitization: Not anticipated to be toxic by inhalation.

Reproductive cell mutagenicity: Not classified.

Carcinogenicity: Suspected of causing cancer.

Reproductive toxicity: Not classified.

Specific target organ toxicity – single exposure: Not classified.

Specific target organ toxicity – repeated exposure: Not classified.

Aspiration hazard: Not classified.

Chronic Effects: Refer to section 4.

POTENTIAL ADVERSE EFFECTS:

Fatal if swallowed, fatal in contact with skin, harmful if inhaled, suspected of causing cancer, and very toxic to aquatic life.

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Other information: Not available.

Other adverse effects: Not determined.

12. ECOLOGICAL INFORMATION

This product is very toxic to aquatic organisms.

ECOTOXICITY DATA:

Active ingredient / inert name

Fish:

| | | |
|-------------------------|-------------------|----------|
| LC ₅₀ (96 h) | Rainbow trout | 1.3 mg/ℓ |
| | Bluegill sunfish | 10 mg/ℓ |
| | Sheepshead minnow | 2.2 mg/ℓ |

Daphnia:

| | | |
|-------------------------|--|------------|
| Very toxic to Daphnia | | |
| EC ₅₀ (48 h) | | 0.006 mg/ℓ |

Algae:

| | | |
|------------------------|----------------------------------|----------|
| EC ₅₀ (5 d) | <i>Selenastrum capricornutum</i> | 1.1 mg/ℓ |
|------------------------|----------------------------------|----------|

Birds:

Minimally toxic to birds.

| | | |
|-----------------------------|----------------|-----------------|
| Acute oral LD ₅₀ | Mallard ducks | >2179 mg/kg |
| | Japanese quail | 2230 mg/kg |
| | Pheasants | > 2000 mg/kg |
| | Pigeons | 1000-3000 mg/kg |

Bees:

| | | |
|----------------------------|--|----------|
| LD ₅₀ (topical) | | 1 µg/bee |
|----------------------------|--|----------|

Worms:

| | | |
|-------------------------|--|--------------------|
| LC ₅₀ (28 d) | | 106-176 mg/kg soil |
|-------------------------|--|--------------------|

Beneficial insects:

Toxic to beneficial insects.

ENVIRONMENTAL EFFECTS (indicate if this is only for the active ingredient)

Based on information for the formulation / active ingredient(s).

Plants: Not determined.

Persistence and degradability: Not determined.

Bio-accumulative potential: Not determined.

Mobility in soil: Various soil fungi are able to metabolize Carbaryl and in soils previously treated with carbamates and cloethocarb, 80 % of Carbaryl was completely mineralized to carbon dioxide during a four-week incubation period.

13. DISPOSAL CONSIDERATIONS

Waste: If container is broken, handle with rubber gloves. Emptied containers retain vapour and product residues. Observe all labelled safeguards until container is destroyed. Combustible containers should be disposed of in pesticide incinerators. Non-combustible containers must be punctured and transported to a scrap metal facility for recycling or disposal.

Container: Contaminated absorbents, surplus product, etc., should be burned at 1000°C in a high-temperature incinerator with effluent gas scrubbing. Where no incinerator is available, hydrolysis under alkaline conditions (pH 12 or above) is a suitable method to dispose of small quantities of the product. Before disposal of the resultant waste, the material must be analysed to ensure that the active ingredient has been degraded to a safe level. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Comply with local legislation applying to waste disposal.

14. TRANSPORT INFORMATION

UN Number: 2757

Road Transport ADR / ORD:

Class: 6.1
 Packaging group: II
 UN Proper Shipping Name: Carbamate pesticide, solid, toxic (Carbaryl 850 g/kg).

Maritime Transport IMDG / IMO:

Class: 6.1
 Packaging group: II
 UN Proper Shipping Name: Carbamate pesticide, solid, toxic (Carbaryl 850 g/kg).

Marine pollutant (Y/N): Yes

Air Transport IATA / ICAO:

Class: 6.1
 Packaging group: II
 UN Proper Shipping Name: Carbamate pesticide, solid, toxic (Carbaryl 850 g/kg).

Special / Environmental Precautions: Wedge drums tightly to avoid movement.

Transport in bulk: Refer to MARPOL 73/78, Annex II and the IBC code.

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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 200, 250, 500 g and 1, 2, 5, 10, 15, 20, 25 & 50 kg 3-ply paper bags or polyprop woven bags. Labelled according to South African regulations and guidelines.

Other hazard statements, abbreviations and explanations:

H315: Skin irritant.

H319: Eye Irritant.

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.

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

Compiled: July 2022

Reviewed: July 2022

Revision no.: 1

Next revision: July 2027

For detailed information on revisions, contact the Registration holder.