
Material Safety Data Sheet

Carbendazim 50% SC

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING.

Product name: Carbendazim 500 g/l SC (benzimidazole fungicide)

Supplier: SPE CHEMICALS CO.,LTD

Emergency telephone: 86-21-51386314

2. COMPOSITION/INFORMATION ON INGREDIENTS.

Chemical characterization: 500 g/l carbendazim

Hazardous component Methyl benzimidazol-2-ylcarbamate (IUPAC) or carbendazim (E-ISO).

CAS Registry No. 10605-21-7

EEC No. 234-232-0

3. HAZARDS IDENTIFICATION.

Skin: Non- irritant, sensitisation dermatitis may occur in persons previously exposed.

Eyes: Non- irritant.

Inhalation: The absorption of carbendazim can possibly have irreversible effects.

Ingestion: The absorption of carbendazim can possibly have irreversible effects.

Other information: -

Physical/chemical effects: -

Environmental effects Toxic to aquatic organisms.

4. FIRST AID MEASURES.

Skin contact Remove all contaminated clothes and shoes. Wash off immediately with soap and plenty of water (15 - 20 minutes). Get medical attention if irritation persists.

Eyes contact Rinse immediately with plenty of water and seek medical advice.

Inhalation Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.

Ingestion Remove by gastric lavage and catharsis. Maintain blood pressure and airway. Give oxygen if respiration is depressed. Do not perform gastric lavage if victim is unconscious Get medical attention immediately.

Other information Treat symptomatically and supportively.

5. FIRE-FIGHTING MEASURES.

Extinguishing media Dry chemical, carbon dioxide, halon, water spray or standard foam.

Unsuitable extinguishing High pressure water jet media.

Special exposure hazards Do not release chemically contaminated water into drains, soil and surface waters.

Special protective As for all fires involving chemicals: chemical protection suit, suitable gloves equipment for fire-fighters and boots, and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES.

Personal precautions Use personal protective equipment.

Methods for cleaning up Do not touch spilled material. Stop leak if you can do it without risk.

For small spills, take up with sand or other absorbent material and place into containers for later disposal. For small dry spills, with a clean shovel place material into clean, dry containers and cover. Move containers from spill area. For larger spills, dike far ahead of spill for later disposal. Keep unnecessary people away. Isolate hazard area and deny entry. Ventilate closed space.

Environmental precautions Prevent contamination of water.

7. HANDLING AND STORAGE.

Handling precautions Keep product in original tightly closed container; avoid exposure by inhalation ; do not get on skin, eyes or clothing ; do not eat, drink or smoke when handling ; wash hands before eating, drinking or smoking.

Storage Store in locked, well-ventilated storeroom, away from children and unauthorised personnel, and food and animal feed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION.

Ventilation Provide local exhaust or general dilution ventilation.

Exposure control limits: -

Respiratory protection Wear a suitable mask.

Hand protection Wear rubber or plastic gloves.

Eye protection Wear splash-proof or dust-resistant safety goggles.

Skin and body protection Wear overalls and closed footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES.

Form Viscous liquid.

Colour White.

Odour Light.

pH as supplied 6.9 - 7.1 (1% solution)

Boiling point / range 100°C (water based formulation)

Melting point / range Not applicable.

Flash point Not applicable, water based formulation.

Flammability Not flammable.

Auto ignition -

Oxidising properties None.

Vapour pressure -

Density 1.175.

Water solubility Not applicable

Partition coefficient, K_{ow} $\log P = 1.38$ (pH 5) ; $\log P = 1.51$ (pH 7) ; $\log P = 1.45$ (pH 9)
(carbendazim)

10. STABILITY AND REACTIVITY.

Stability Stable under normal temperatures and pressures.

Conditions to avoid No special precautions other than good housekeeping of chemicals.

Material to avoid Alkaline materials can cause hydrolysis.

Hazardous decomposition Thermal decomposition products may include toxic oxides of carbon and nitrogen.

11. TOXICOLOGICAL INFORMATION.

Acute LD₅₀ oral rats > 2 000 mg/kg.

Acute LD₅₀ dermal rats > 2 000 mg/kg.

Acute LC₅₀ inhalation rats (4 h) > 5.9 mg/l (carbendazim).

Eye irritation: Non-irritant.

Skin irritation: Non-irritant.

Skin sensitization: Not determined, but carbendazim is not a sensitizer.

Carcinogen status: Not carcinogenic.

Mutagenicity Carbendazim is not mutagenic but phenazines, possible contaminants of the technical material, are mutagenic at very low concentrations.

Reproductive toxicity: Not teratogenic.

ADI (man): mg/kg 0.03 mg/kg b.w.

12. ECOLOGICAL INFORMATION.

LC₅₀ (96 h) rainbow trout 0.83 mg/l (carbendazim).

Acute LD₅₀ oral bobwhite quail 5826 mg/kg (carbendazim).

Bee toxicity Not toxic to bees, LD₅₀ > 50 µg/bee (carbendazim).

Aquatic invertebrates *Daphnia magna* EC₅₀ (48 h) 87 µg/l (carbendazim).

Soil DT₅₀ for carbendazim is of 3 to 12 months with its residues and metabolites tightly bound to soil.

13. DISPOSAL CONSIDERATIONS.

Pesticide disposal Bury in a specially designated landfill (soil burial should suffice, do not contaminate water sources). Always dispose of in accordance with local regulations.

Container disposal Packaging should be disposed of at a specialised chemical waste disposal facility.

14. TRANSPORT INFORMATION.

UN No. 3082

Class 9

Packing group III

Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (carbendazim).

Environmental risk Marine pollutant

15. REGULATORY INFORMATION.

Hazard symbol The harmful symbol (Xn) ; mutagenic Category 3

The dangerous for the environment symbol (N)

Risk phrases R40/22 - Harmful : possible risks of irreversible effects if swallowed.

R50 - Very toxic to aquatic organisms.

Safety phrases S2 - Keep out of the reach of children.

S13 - Keep away from food, drink or feedingstuffs

S20/21 - When using do not eat, drink or smoke.

S36/37 - Wear suitable protective clothing and gloves.

S46 - If swallowed, seek medical advice immediately and show this container or label.

S60 - This material and/or its containers must be disposed of as hazardous waste.

S61 - Avoid release to the environment. Refer to special instructions/safety data sheet.

16. OTHER INFORMATION.

MSDS last revision date 06.07.99

The information contained in this safety data sheet is given in good faith. It is accurate to the best of our knowledge and belief and represents the most up to date information. The information given in this data sheet does not constitute or replace the user's own assessment of work place risk as required by other health and safety legislation.