



SHANGHAI MINGDOU AGROCHEMICAL CO., LTD

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MATERIAL SAFETY DATA SHEET OF CARBENDAZIM 50% WP

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Supplier: SHANGHAI MINGDOU AGROCHEMICAL CO., LTD

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Product name: Carbendazim 50% WP

Product use: Agricultural fungicide for control of disease in fruits and vegetables.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formulation Type: Wettable powder

Active Ingredients: Carbendazim

Chemical Abstracts name: methyl 1*H*-benzimidazol-2-ylcarbamate

IUPAC name: methyl benzimidazol-2-ylcarbamate

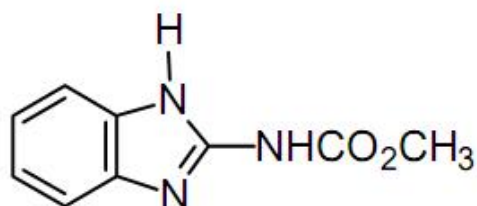
Chemical Family: Benzimidazole fungicide

CAS NO. 10605-21-7

Molecular Formula: C₉H₉N₃O₂

Molecular Weight: 191.2

Structural Formula:



Compositions:

INGREDIENT	CAS NO	PROPORTION
Carbendazim	10605-21-7	≥50%
Inert ingredients	Not available	≤50%

Other ingredients determined not to be hazardous



3. HAZARDS IDENTIFICATION

Emergency overview: Keep out of reach of children. Harmful by inhalation. Harmful if swallowed. Contact can cause eye or skin irritation. Do not breathe dust/spray. Avoid contact with skin/eyes.

Routes of entry: Ingestion, inhalation, skin and eye contact.

Health hazards:

Ingestion: Harmful or fatal if swallowed – can enter lungs and cause damage.

Inhalation: Dust can irritate the nose and throat.

Skin contact: Repeated or prolonged contact can cause irritation or dermatitis.

Eye contact: Moderately irritation eyes.

Environmental hazards: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General: Have the product container, label or Material Safety Data Sheet with you when going for treatment. Tell the person contacted the complete product name, and the type and amount of exposure. Describe any symptoms and follow the advice given.

Skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Seek medical attention if ill effect or irritation develops.

Eye contact: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking, tears or redness persist.

Ingestion: If swallowed do not induce vomiting. Dilute by giving 2 glasses of water to drink. Never give any by mouth to an unconscious person. For advice, contact a poison control center or a doctor immediately.

Inhalation: Assure fresh air breathing. Rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical advice.

Note to physician: No specific antidote. Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flash point: Not applicable

Flammable limits:

LFL: Not determined.

UFL: Not determined.

Autoignition temperature: Not determined.



Hazardous combustion products: Product is not flammable, but will burn if heated by combustion of other compounds. Combustion may release carbon dioxide, nitrogen oxides, and/or chlorine compounds.

Extinguishing media: Carbon dioxide, dry chemical, foam, water fog.

Media to be avoided: Water stream.

Fire-fighting instructions: If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/ tanks with spray water.

Protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENT RELEASE MEASURES

Personal precautions: Wear protective equipment to prevent skin and eyes being affected. Evacuate unprotected and unnecessary personnel from area of spill. If material is spilling from a container, stop the spill only if this can be done safely. Prevent spillage entering drains or watercourse.

Environmental precautions: Do not flush into surface water or sanitary sewer system. Do not contaminate surface water. Do not allow material to contaminate ground water system.

Method for cleaning up: Vermiculite, Sand, Soil is a suitable absorbent, especially soils high in clay. Soil can be used to form bunds to contain spillage. Contaminated soil should be collected for disposal at a suitable landfill. Contaminated area and tools should be washed down with hypochlorite bleach. Personal protective equipment and clothing should be washed with soapy water.

7. HANDLING AND STORAGE

Handling: Provide appropriate exhaust ventilation at places where dust is formed. Wear personal protective equipment. Keep away from heat and sources of ignition.

Storage: Store in a place accessible by authorized persons only. Keep away from food, drink and animal feedingstuffs. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Ensure adequate ventilation, especially in confined areas.

Personal protective equipment (PPE):

Respiratory protection: Wear suitable respirators where exposure limits are exceeded.

Hand protection: Use gloves. Wash hands with plenty of mild soap and water before eating, drinking, use of toilet facilities or leaving work.

Body protection: Wear long-sleeved fire-retardant garments. Additional chemical-resistant protective gear may be required. This may include an apron, boots and additional facial protection.

Eye protection: Wear eye protection such as safety glasses, chemical goggles, or face shields if engineering controls or work practices are not adequate to prevent eye contact. Contact lenses should not



be worn when working with this chemical.

User safety recommendations: Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing. Deluge safety shower and eye wash station should be located in work area

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: Solid.

Colour: White to slight tan.

Odour: Faint.

Solubility in water: Dispersible in water.

Melting point: NA

Boiling point: NA

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions.

Conditions to avoid: Keep dry and avoid excessive heat and ignition sources.

Hazardous decomposition products: Decomposes by reaction with alkaline solutions. Carbon oxides, nitrogen oxides (NO_x).

Incompatible materials: Strong oxidising agents.

Hazardous reactions: Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Oral: LD₅₀ for rats >5000mg/kg, dogs >2000 mg/kg.

Dermal: LD₅₀ for rabbits >5000, rats >2000 mg/kg.

Inhalation: LC₅₀ for rats, rabbits, guinea pigs or cats, no effect with suspension (10 g/l water).

Irritant properties:

Skin: Irritation

Eye: Irritation

Allergenic and sensitizing effects:

Not considered to be a skin sensitizer (Guinea pig).

Chronic toxicity/Carcinogenicity:

NOEL (2 y) for dogs 300 mg/kg diet, corresponding to 6-7 mg/kg b.w.



12. ECOLOGICAL INFORMATION

The following information is for the active ingredient, Carbendazim.

Ecotoxicity:

Birds	Acute oral LD ₅₀ : or quail 5826-15 595 mg/kg.
Fish	LC ₅₀ (96 h): for carp 0.61, rainbow trout 0.83, bluegill sunfish >17.25, guppy >8 mg/l.
Daphnia	EC ₅₀ (48 h): 0.13-0.22 mg/l.
Algae	EC ₅₀ : or <i>Scenedesmus subspicatus</i> 419, <i>Selenastrum capricornutum</i> 1.3 mg/l.
Bees	LD ₅₀ (contact): >50 µg/bee.
Earthworm:	LC ₅₀ (14 days): for <i>Eisenia foetida</i> 6 mg/kg soil.

Persistence and degradability: Half-life in water DT₅₀ 2~25 month. Half-life in soil DT₅₀ 8~32 days.

Bioaccumulative potential: Low potential.

Mobility in soil: Medium

13. DISPOSAL CONSIDERATION

Product: Whenever possible, product should be used for its intended purpose, even if reclaimed from spillage (reclaimed product must be uncontaminated).

Containers: Whenever possible, follow directions given on container. If not available, triple or pressure rinse plastic or metal containers before disposal. Recycle containers if possible (replace cap and return clean containers to recycler or designated collection point). Treat rinsings as for product above. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

Sewage: Do not dispose of product or rinsings into sewage systems or septic tanks.

14. TRANSPORT INFORMATION

UN Number: 3077

UN Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (contains Carbendazim)

Transport hazard class: 9

Packing group: III

Marine pollutant: Yes

15. REGULATORY INFORMATION

Risk phrases:

R20 Harmful by inhalation.



R22 Harmful if swallowed.

R65 Harmful – may cause lung damage if inhaled.

Safety phrases:

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

S22 Do not breathe dust.

S23 Do not breathe spray.

S24/25 Avoid contact with skin/eyes.

S29/35 Do not empty into drains/Dispose of material and container in a safe way.

16. OTHER INFORMATION

This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.

END OF MSDS