



SHANGHAI MINGDOU AGROCHEMICAL CO., LTD

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## MATERIAL SAFETY DATA SHEET OF CARBENDAZIM 50% SC

### 1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

**Supplier:** SHANGHAI MINGDOU AGROCHEMICAL CO., LTD

**Address:** Rm. 1210, Zhenyuan Building, No. 2052 North Zhongshan Rd, Shanghai, China

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**Product name:** Carbendazim 50% SC

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Formulation Type:** Suspension concentrate

**Active Ingredients:** Carbendazim

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

**IUPAC name:** methyl benzimidazol-2-ylcarbamate

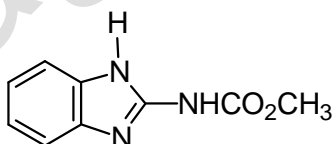
**Chemical Family:** benzimidazole

**CAS NO.** 10605-21-7

**Molecular Formula:** C<sub>9</sub>H<sub>9</sub>N<sub>3</sub>O<sub>2</sub>

**Molecular Weight:** 191.2

**Structural Formula:**



**Composition:**

INGREDIENT	CAS NO	PROPORTION
Carbendazim	10605-21-7	50% Min
Inert ingredients	Not available	50% Max

Other ingredients determined not to be hazardous

### 3. HAZARDS IDENTIFICATION

**Emergency overview:** Grey-white liquid suspension. No significant risk factors have been found for this product.

**Health hazards:**



**Inhalation:** Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

**Skin Contact:** Available data indicates that this product is not harmful. It should present no hazards in normal use. In addition product is unlikely to cause any discomfort in normal use.

**Eye Contact:** This product may be mildly irritating to eyes, but is unlikely to cause anything more than mild discomfort which should disappear once product is removed.

**Ingestion:** Significant oral exposure is considered to be unlikely. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

#### 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:** Wash off immediately with soap and plenty of water.

**Eye contact:** Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.

**Ingestion:** Drink 1 or 2 glasses of water. Induce vomiting, but only if victim is fully conscious. Consult a physician if necessary.

**Inhalation:** Move to fresh air.

**Note to physician:** No specific antidote. Treat symptomatically.

#### 5. FIRE FIGHTING MEASURES

**Flash point:** Not applicable, water based formulation.

**Flammable limits:** Dose not burn.

**Autoignition temperature:** Not applicable. Dose not burn.

**Hazardous combustion products:** Fire decomposition products from this product may be toxic if inhaled.

**Extinguishing media:** Use extinguishing media suited to burning materials.

**Media to be avoided:** High pressure water jet media.

**Fire-fighting instructions:** If a significant quantity of this product is involved in a fire, call the fire brigade. Do not release chemically contaminated water into drains, soil and surface waters.

**Protective equipment for firefighters:** Chemical protection suit, suitable gloves equipment for fire-fighters and boots, and self-contained breathing apparatus.

#### 6. ACCIDENT RELEASE MEASURES

**Personal precautions:** Use personal protective equipment.



**Environmental precautions:** Prevent contamination of water.

**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.

## 7. HANDLING AND STORAGE

**Handling:** Read the label before use. 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 unauthorized personnel, and food and animal feed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure limits:** No exposure limits have been established for this material.

**Engineering controls:** No special equipment is usually needed when occasionally handling small quantities.

### **Personal protective equipment (PPE):**

**Ventilation:** No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapors and mists are minimized.

**Eye Protection:** Eye protection is not normally necessary when this product is being used.

**Skin Protection:** The information at hand indicates that this product is not harmful and that normally no special skin protection is necessary. However, we suggest that you routinely avoid contact with all chemical products and that you wear suitable gloves (preferably elbow-length) when skin contact is likely.

**Respirator:** Usually, no respirator is necessary when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Grey-white liquid suspension.

**Odor:** Faint odor.

**pH:** 6-8.

**Boiling point:** Approximately 100°C at 100kPa.

**Melting point:** Approximately 0°C.

**Flash point:** Not applicable, water based formulation.

**Flammability:** Not flammable.



## 10. STABILITY AND REACTIVITY

**Chemical stability:** Stable under normal conditions.

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

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

**Incompatible materials:** Alkaline materials can cause hydrolysis.

**Hazardous reactions:** Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity:

Oral: LD<sub>50</sub> > 2000 mg/kg.

Dermal: LD<sub>50</sub> > 2000 mg/kg.

Inhalation: LC<sub>50</sub> > 2.0 mg/l.

### Irritant properties:

Skin: Not irritating to skin

Eye: Mildly irritating to eyes

**Allergenic and sensitizing effects:** Not considered to be a skin sensitizer (Guinea pig).

**Carcinogenicity:** Not carcinogenic.

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

**Reproductive effects:** Not teratogenic.

## 12. ECOLOGICAL INFORMATION

**The following information is for the active ingredient, carbendazim.**

### Ecotoxicity:

Birds Acute oral LD<sub>50</sub>: for quail 5826-15 595 mg/kg.

Fish LC<sub>50</sub> (96 h): for carp 0.61, rainbow trout 0.83, bluegill sunfish >17.25, guppy >8 mg/l.

Daphnia EC<sub>50</sub> (48 h): 0.13-0.22 mg/l.

Algae EC<sub>50</sub> (72 h): for *Scenedesmus subspicatus* 419, *Selenastrum capricornutum* 1.3 mg/l.

Bees LD<sub>50</sub> (contact): >50 µg/bee.

Earthworm: LC<sub>50</sub>: for *Eisenia foetida* 6 mg/kg soil.

**Persistence and degradability:** DT<sub>50</sub> for carbendazim is of 3 to 12 months with its residues and metabolites tightly bound to soil.

**Mobility in soil:** Tightly bound to soil. Low mobility.



### 13. DISPOSAL CONSIDERATION

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 Number: 3082

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

Transport hazard class: 9

Packing group: III

Marine pollutant: Yes

### 15. REGULATORY INFORMATION

#### Hazard symbols:

T- Toxic

N- Dangerous for the environment

#### Risk phrases:

R50 - Very toxic to aquatic organisms.

R68 - Possible risks of irreversible effects.

#### Safety phrases:

S23 - Do not breath gas/fumes/vapour/spray.

S24/25 - Avoid contact with skin and eyes.

S36/37 - Wear suitable protective clothing and gloves.

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.

### 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