



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

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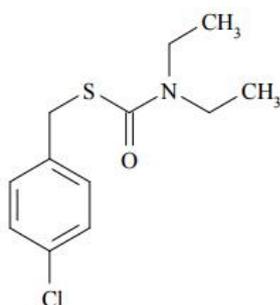
1. Chemical Product Identification

Common Name: Thiobencarb 50% EC

Molecular Formula: C₁₂H₁₆ClNOS

Molecular Weight: 257.8

Structural Formula:



Chemical Name: S-4-chlorobenzyl diethyl(thiocarbamate)

Form: Liquid

Color: Pale yellow to pale brown

Odor: Moderately pungent odor

CAS No.: 28249-77-6

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Thiobencarb	28249-77-6	50
Other ingredients	---	50

3. Hazards Identification



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Do not handle until all safety precautions have been read and understood. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/ protective clothing/ eye protection/ face protection. IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician. Rinse mouth. Do NOT induce vomiting. IF ON SKIN: Wash with plenty of water/ soap.

4. First Aid Measures

Inhalation: When inhaled remove to fresh air and seek medical aid. Keep patient warm and at rest. Oxygen or artificial respiration if needed.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. Get medical attention if irritation develops and persists.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

Ingestion: Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Keep patient warm and at rest. Do not induce vomiting or give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

5. Fire-Fighting Measures

Suitable extinguishing media: Dry chemical, Foam, Carbon dioxide (CO₂), Sand

Special hazards arising from the substance or mixture: In the event of fire the following may be released:, Carbon dioxide (CO₂), Carbon monoxide (CO), Nitrogen oxides (NO_x), Sulphur oxides.

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

Further information: Avoid contact with spilled product or contaminated surfaces. Evacuate personnel to safe areas. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses.

6. Accidental Release Measures



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Personal Precautions: Avoid contact with spilled product or contaminated surfaces. Remove all sources of ignition. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep people away from and upwind of spill/leak.

Environmental Precautions: Contain contaminated water and fire fighting water. Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for Clean-up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

7. Handling And Storage

Handling: Avoid contact with skin, eyes and clothing. Provide for appropriate exhaust ventilation and dust collection at machinery. Use only in area provided with appropriate exhaust ventilation. Keep away from heat and sources of ignition.

Storage: Keep in a dry, cool and well-ventilated place. Keep out of the reach of children. Store in an area where cross-contamination with pesticides, fertilizers, food or feed could not occur.

8. Exposure Controls/Personal Protection

Respiratory protection: Use respiratory protection for organic vapours.

Hand protection: Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.

Eye protectio: Face-shield.

Skin and body protection: Skin contact should be prevented. Wear standard coveralls and Category 3 Type 4 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently. Chemical resistant headgear for overhead exposure. Chemical resistant shoes plus socks.

General protective measures: In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.



9. Physical and Chemical Properties

Appearance: Pale yellow to pale brown liquid

pH: 3.0-6.0

Moisture: $\leq 0.5\%$

Emulsion stability (dilute 200 times): Qualified

10. Stability and Reactivity

Thermal decomposition: Stable under normal conditions.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions. Stable under normal conditions.

Conditions to avoid: Elevated temperatures. Heat, flames and sparks.

Incompatible materials: Oxidizing agents, Strong bases, Strong acids

Hazardous decomposition products: Thermal decomposition can lead to release of: Carbon oxides; Nitrogen oxides (NO_x); Sulphur oxides.

11. Toxicological Information

Acute oral LD50 for mouse: 560 a.i.mg/kg

Acute dermal LD50 for rat: >5000 a.i.mg/kg

Inhalation LC50 (4 h) for rat: >2.43 a.i.mg/L

Skin irritation: Slightly irritating to skin (rabbits)

Eye irritation: Slightly irritating to eyes (rabbits)

Skin sensitization: Not a skin sensitiser (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: low toxicity to birds, acute oral LD50 for *Colinus virginianus* is >2000 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Cyprinidae is 0.98 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for *Daphnia magna* is 1.1 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for *Raphidocelis subcapitata* is 0.017 a.i.mg/L.



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Effect on honeybees: low toxicity to honeybees, contact acute 48 hour LD50 is >100 a.i.µg/bee; oral acute 48 hour LD50 is >100 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is 437 a.i.mg/kg.

13. Disposal Considerations

Product Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

14. Transport Information

Not applicable.

15. Regulatory Information

Not applicable.

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS 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 on receipt of this MSDS 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 the product. If the recipient subsequently produce formulations containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.