



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

ADD: NO.52 PUCHANG ROAD, PUZHOU INDUSTRIAL PARK, LONGWAN DISTRICT,
WENZHOU ZHEJIANG P.R. CHINA

Tel: +86-577-88905587

Fax: +86-577-88905567

Email: info@rayfull.com

sales@rayfull.com

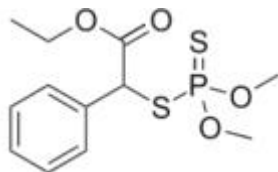
1. Chemical Product Identification

Product Name: Phenthoate 90% TC

Molecular Formula: C₁₂H₁₇O₄PS₂

Molecular Weight: 320.36 g/mol

Structural Formula:



Chemical Name: S- α -ethoxycarbonylbenzyl O,O-dimethyl phosphorodithioate

Color: Reddish yellow

Form: Oily liquid

Odor: Aromatic odor

CAS No.: 2597-03-7

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Phenthoate	2597-03-7	90.0
Other ingredients		10.0

3. Hazards Identification

Component	Symbol	R phrases
-----------	--------	-----------



Phenthoate	Xn, N	R21/22 R50, R53
------------	-------	-----------------

More important danger for the man: Harmful by inhalation and if swallowed. Irritating to skin . Phenthoate is a cholinesterase inhibitor with contact and stomach action; moderately toxic to mammals with no residual activity. Toxicity is increased after metabolism to the oxygen analogue.

Dangers for the environment: Phenthoate is moderate to mammals ,birds, fish and aquatic invertebrates.

Physical-chemical dangers: Not applicable.

4. First Aid Measures

If poisoning occurs, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Show this Material Safety Data Sheet to a doctor.

Immediate first aid: The person should stop work immediately, remove contaminated clothing and wash the affected skin with soap and water, if available, and flush the area with large quantities of water. If swallowed, and if the person is conscious, vomiting should be induced. In the event of collapse, artificial respiration should be given, bearing in mind that if mouth-to-mouth respiration is used, vomit may contain toxic amounts of phenthoate. Keep patient quiet and maintain normal body temperature. Obtain medical attention.

Oral exposure: If ingestion is suspected, call a physician or poison control center. If medical assistance cannot be given immediately, induce vomiting and get to a hospital. To induce vomiting, administer 1 or 2 glasses of water and stick finger down throat. Repeat until vomits are clear. And inject 1 to 2 mg of atropine subcutaneous. Or, if available, administer syrup of ipecac (1/2 oz. Or 15 ml). If vomiting does not occur within 10-20 minutes, administer a second does of ipecac. Do not attempt to give anything by mouth to an unconscious or convulsing person.

Inhalation: If a person is overcome by excessive exposure to aerosols or vapors of this material, remove to fresh air or uncontaminated area. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention as soon as possible.

Eye exposure: Irrigate for 15 minutes with copious quantities of water with eyelids held open. If irritation persists, seek medical attention immediately.

Dermal exposure: Remove contaminated clothing. Flush skin with running water for a minimum of 20 minutes. If swelling, redness, blistering or irritation occurs seek medical attention immediately



5. Fire-Fighting Measures

Extinguishing media: For small fires, use foam, carbon dioxide or dry powder extinguishant. For large fires, use foam or water-fog, avoid use of water jet. Contain run-off water with for example, temporary earth barriers.

Don't use: Not applicable.

Particular risk: Evolve SO_x, upon combustion.

Measures of personal protection: Approved respirator, safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

6. Accidental Release Measures

Personal cautions: approved respirator, safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

Cleaning methods

Spill handling: evacuate persons not wearing protective equipment from area of spill or leak until clean-up is complete. Remove all ignition sources. Collect powdered material in the most convenient and safe manner and deposit in sealed containers. Ventilate area after clean-up is complete. It may be necessary to contain and dispose of this chemical as a hazardous waste. If material or contaminated run off enters waterways, notify downstream users of potentially contaminated waters. Contact your Department of Environmental Protection or your regional office of the federal EPA for specific recommendations.

Cleaning glassware & spray equipment: flush tank, pump, hoses, & boom with several changes of water after removing nozzle tips & screens (clean these parts separately).

Glassware can be cleaned by thorough washing with detergent followed by acetone rinse.

Environmental cautions

Water spill: If dissolved, in region of 10 ppm or greater concentration, apply activated carbon at ten times the spilled amount. Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates.

7. Handling And Storage

Handling: Use only in a well-ventilated area. Avoid getting in eyes or on skin, or clothing and breathing dust. Remove contaminated clothing immediately. Wash thoroughly after handling.



ZHEJIANG RAYFULL CHEMICALS CO., LTD

Tel: +86-577-88905587,88908857

Fax: +86-577-88905567

EMAIL: info@rayfull.com sales@rayfull.com

Storage: Keep out of reach of Children: Keep in original container. Keep the container closed when not in use. Keep away from food, feed and drinking water. Keep in a well-ventilated, dry place away from heat and other sources of ignition. Keep from freezing.

Fire and explosion protection: The area must be far from fire and flammable materials.

8. Exposure Controls / Personal Protection

Pesticide applicators & workers

Refer to the product label and directions for use attached to the product for agricultural manufacturing, commercial blending, & packing workers.

Eye protection: Wear protective eyewear to prevent contact with this substance.

Ventilation: Control enclosed spaces with adequate ventilation to prevent exceedance of ACGIH TLV or OSHA PEL.

Respiratory protection: In enclosed spaces where the TLV or PEL may be exceeded, wear NIOSH/MSHA approved dust or mist respirator.

Protective clothing: Application and other handlers must wear long-sleeved shirt, long pants, waterproof gloves, and shoes plus socks.

9. Physical And Chemical Properties

Color: Reddish yellow

Form: Oily liquid

Odor: Aromatic odor

Melting point: 17.5°C

Density: 1.226 g/ml

Vapour pressure: 5.3 mpa at 25°C

Moisture: ≤0.5%

Acidity (as H₂SO₄): ≤0.5%

10. Stability And Reactivity

Stability: Stable in water, air and from light.

Conditions to avoid: Keep away from heat. Keep away from sources of ignition, No smoking.

Products to avoid: compatible with all most insecticides, fungicides and acaricides except alkaline ones such as Bordeaux mixture and lime sulfur.



Hazardous decomposition products: Thermal decomposition products are toxic and may include hydrocarbons ammonia, organic and acid halides, oxide of carbon, nitrogen and sulfur.

11. Toxicological Information

Acute oral LD₅₀ for rat: 249 a.i.mg/kg.

Acute dermal LD₅₀ for rabbit: 72.0 a.i.mg/kg.

Acute inhalation LC₅₀ (4 h) for rat: 3.17 a.i. mg/L.

Skin irritation: Prolonged skin contact may cause temporary irritation.

Eye irritation: Direct contact with eyes may cause temporary irritation.

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

12. Ecological And Ecotoxicological Information

Effect on birds: moderate toxicity to birds, acute oral LD₅₀ for Phasianidae is 300 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC₅₀ for Cyprinidae is 2.5 a.i.mg/L.

Effect on aquatic invertebrates: high toxicity to aquatic invertebrates, acute 48 hour EC₅₀ for Daphnia magna is 0.0017 a.i.mg/L.

Effect on honeybees: high toxicity to honeybees, acute 48 hour LD₅₀ is 0.306 a.i.µg/bee.

13. Disposal Considerations

Waste disposal method: Dispose of in accordance with federal, state and local regulations.

Container disposal: Dispose of in an approved facility according to federal, state and local regulations.

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



ZHEJIANG RAYFULL CHEMICALS CO., LTD

Tel: +86-577-88905587,88908857

Fax: +86-577-88905567

EMAIL: info@rayfull.com sales@rayfull.com

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.