



ZHEJIANG RAYFULL CHEMICALS CO., LTD.

Tel: +86-577-88905587,88908857

Fax: +86-577-88905567

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

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

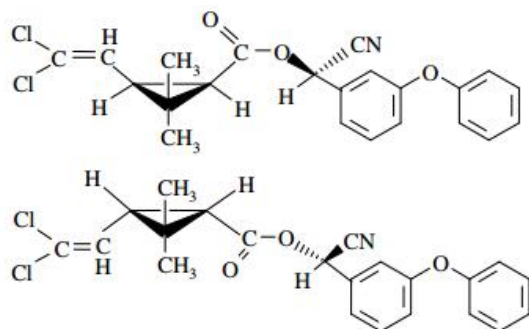
1. Chemical Product Identification

Product Name: Alpha-cypermethrin 97% TC

Molecular Formula: $C_{22}H_{19}Cl_2NO_3$

Molecular Weight: 416.30 g/mol

Structural Formula:



Chemical Name: racemate comprising (R)- α -cyano-3-phenoxybenzyl (1S)-cis-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate and (S)- α -cyano-3-phenoxybenzyl (1R)-cis-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

Form: Powder

Colour: White to light yellow

CAS No.: 67375-30-8

2. Composition / Information On Ingredients

Composition	Chemical name	Content (% w/w)
Active ingredient	Alpha-cypermethrin	97%



ZHEJIANG RAYFULL CHEMICALS CO., LTD.

Tel: +86-577-88905587, 88908857

Fax: +86-577-88905567

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

Other ingredient	-----	3%
------------------	-------	----

3. Hazards Identification

May be harmful if ingested, inhaled, or absorbed through the skin. May cause irritation. To the best of our knowledge, the toxicological properties of this compound have not been fully investigated. Exercise appropriate precautions to prevent opportunities for inhalation, and to prevent direct contact with skin and eyes. All uncharacterized chemicals should be treated as suspected toxins.

4. First Aid Measures

Eye: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

Skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Ingestion: Immediately call a poison control center or doctor for treatment advice. Do not induce vomiting unless directed to do so by a physician or poison control center. Have a person sip a glass of water if able to swallow. Do not give anything by mouth to an unconscious person.

Inhalation: Move person to fresh air. If person is not breathing, call an ambulance, and then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

Note to Physician: There is no specific antidote. All treatment should be based on observed signs and symptoms of distress in the patient. Overexposure to materials other than this product may have occurred.

5. Fire-Fighting Measures

Extinguishing Media: Foam, CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoff.

Fire/Explosion Hazards: Slightly combustible. This material may support combustion at elevated temperatures.

Fire Fighting Procedures: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, hydrogen cyanide,



chlorine, hydrogen chloride.

6. Accidental Release Measures

Environmental Protection Measures following Accidents: Do not contaminate waters and sewers. Collect product in containers for safe disposal. Dampen solid material carefully to prevent it being blown away. Collect material in specially marked, tightly closing containers. Spilled product cannot be used further and must be disposed of, If safe disposal is not possible, contact the manufacture, the dealer or the local representative.

7. Handling And Storage

Handling: Avoid breathing dust, vapor, mist, or gas. Keep container tightly closed. Avoid contact with skin and eyes. Wash thoroughly after handling. Mechanical exhaust required.
Storage: Store in a cool, dry well ventilated place away from sources of heat and incompatible substances. Keep container tightly closed when not in use.

8. Exposure Controls/personal protection

Engineering Controls: Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: general area dilution/exhaust ventilation.

Eye/Face Protection: Eye and face protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate equipment should be selected for the particular use intended for this material. Eye contact should be prevented through use of chemical safety glasses with side shields or splash proof goggles. An emergency eye wash must be readily accessible to the work area.

Body Protection: Applicators and other handlers must wear long-sleeved shirts, long pants, chemical resistant, waterproof gloves, and shoes plus socks during mixing, loading, applying and clean-up and repair activities. Where overhead exposure is possible, chemical resistant headgear should be worn.

9. Physical And Chemical Properties

Appearance: White to light yellow powder

Acidity(H_2SO_4): $\leq 0.2\%$

Moisture: $\leq 0.5\%$



Insoluble in acetone: $\leq 0.5\%$

Density: 1.33 g/ml

Melting Point: 81.5°C

Boiling point: Decomposes before boiling

Partition Coefficient: $\log P = 5.5$ (at pH 7, 20°C)

Vapour pressure: 0.00034 mPa (at 25°C)

Solubility: 0.004 mg/l in water (20°C); In organic solvents: toluene 596 g/l, methanol 21.3 g/l, ethyl acetate 584 g/l (all at 20°C).

10. Stability And Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Excessive heat and fire. .

Incompatibility: Strong oxidizers.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Acute oral LD₅₀ for rats: 57 mg/kg

Acute dermal LD₅₀ for rats: >2000 mg/kg

Acute inhalation toxicity: LC₅₀ (4h) for rats: 0.593 mg/l

Skin irritation: Non irritating to rabbits

Eye irritation: Non irritating to rabbits

Skin Sensitization: Non-sensitive (Guinea Pig)

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD₅₀ for Bobwhite quail is >2025 mg/kg.

Effect on fish: Acute LC₅₀ (96 h) for Rainbow trout is 0.0018 mg/l.

Effects on aquatic invertebrates: Acute EC₅₀ (48 h) for Daphnia magna is 0.00022 mg/l.

Effects on algae: Acute 72 hour EC₅₀ for Pseudokirchneriella subcapitata is 0.084 mg/l.

Effects on bees: Contact acute (48 h) LD₅₀ is 0.033 µg/bee, oral acute (48 h) LD₅₀ is 0.059 µg/bee.

Effects on earthworms: Acute 14 day LC₅₀ is >100 mg/kg.

13. Disposal Considerations

Disposal Methods: Open dumping or burning of this material or its packaging is prohibited.



If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

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.