



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

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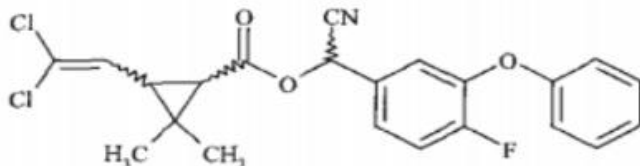
1. Chemical Product Identification

Product Name: Cyfluthrin 90% TC

Molecular Formula: $C_{22}H_{18}Cl_2FNO_3$

Molecular Weight: 434.29 g/mol

Structural Formula:



Chemical Name: (*RS*)- α -cyano-4-fluoro-3-phenoxybenzyl (*1RS,3RS;1RS,3SR*)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate

Form: Liquid

Color: Yellowy to amber

CAS No.: 68359-37-5

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Cyfluthrin	68359-37-5	90.0
Other ingredients		10.0

3. Hazards Identification



Emergency overview: Caution! Moderate eye irritation. Harmful if swallowed, inhaled or absorbed through the skin. Do not get in eyes, on skin or on clothing. Avoid breathing dust or spray mist.

Potential health hazards: not applicable.

4. First Aid Measures

General: Have the product container or label with you when calling a poison control center or doctor or going for treatment.

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 all contaminated clothing immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a poison control center or doctor for treatment advice.

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

Inhalation: Move to fresh air, If person is not breathing, call 911 or an ambulance. Then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

5. Fire-Fighting Measures

Flash point: Not expected to self ignite; Not highly flammable.

Suitable extinguishing media: Water, dry chemical

Fire fighting instructions: Keep out for smoke. Stay upwind. Do not allow run-off from fire fighting to enter drains or watercourses, Equipment or materials involved in pesticide fires may become contaminated.

Wear self-contained breathing apparatus and protective suit.

6. Accidental Release Measures

General and disposal: Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.



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Land spill or leaks: Avoid dust formation. Avoid breathing dust, Avoid contact with skin. Use recommended protective equipment while carefully sweeping up spilled material.

Place in covered container for reuse or disposal. Scrub contaminated area with soap and water. Rinse with water. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed, Do not allow material to enter streams, sewers, or other waterways.

7. Handling And Storage

Handling Procedures: Handle and open container in a manner as to prevent spillage. Avoid contamination of feed and foodstuffs, Foods should be removed or covered before treatments. Food processing surfaces and equipment must be covered during treatment or cleaned with a suitable detergent and rinsed with potable water before reuse. Remove pets, birds and cover fish aquaria before spraying. When using in animal quarters, do not apply directly to food, water or food supplements.

Storage: Do not contaminate water, food, or feed by storage or disposal. Do not freeze. Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably of children, preferably in a locked storage area.

Work/Hygienic procedures: Wash thoroughly with soap and water after handling. Remove and wash contaminated clothing before re-use.

8. Exposure Controls / Personal Protection

Engineering controls: Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Eye/Face Protection: Goggles

Hand protection: Suitable chemical resistant gloves.

Body protection: Wear long-sleeved shirt and long pants and shoes plus socks.

Respiratory protection: Dust/mist filtering respirator.

General protection: Follow all label instructions. Educate and train employees in safe use of the product. Do not allow children and pets to enter the treated area until it has dried.

9. Physical And Chemical Properties

Appearance: Yellowy to amber liquid



Melting point: 79°C

Boiling point: Decomposes before boiling

Flash point: Not expected to self ignite; Not highly flammable

Density: 1.27-1.28 g/ml at 20°C

Vapour pressure: 0.0003 m pa at 25°C

Moisture: ≤0.3%

Acidity (as H₂SO₄): ≤0.2%

10. Stability And Reactivity

Chemical stability: Stable

Conditions to avoid: Heat. Exposure to moisture.

Incompatibility with other materials: Alkaline Methanol.

Hazardous decomposition products: Will not occur.

11. Toxicological Information

Acute oral LD₅₀ for rats is >16.2 a.i.mg/kg.

Acute percutaneous LD₅₀ for rats is >5000 a.i.mg/kg.

Acute inhalation toxicity LC₅₀ (4 h) for rats is 4.05 a.i.mg/l.

Skin irritation: Non-irritating to skin (rabbits).

Eye irritation: Slightly-irritating to eyes (rabbits).

Skin sensitization for guinea pig: Not a skin sensitiser.

12. Ecological And Ecotoxicological Information

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

Effect on fish: high toxicity to fish, acute 96 hour LC₅₀ for Rainbow trout is 0.00047 a.i.mg/L.

Effect on aquatic invertebrates: high toxicity to aquatic invertebrates, acute 48 hour EC₅₀ for *Daphnia magna* is 0.00016 a.i.mg/L.

Effect on algae: low toxicity to algae, acute 72 hour EC₅₀ for *Scenedemus subspicatus* is >10 a.i.mg/L.

Effect on honeybees: high toxicity to honeybees, contact acute 48 hour LD₅₀ is 0.001 a.i.µg/bee; Oral acute 48 hour LD₅₀ is 0.05 a.i.µg/bee.



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Effect on earthworms: low toxicity to earthworms, acute 14 day LC₅₀ for Eisenia foetida is >1000 a.i.mg/kg.

13. Disposal Considerations

General disposal guidance: Pesticide disposal: Pesticide wastes are hazardous.

Improper disposal of excess pesticide, spray mixture or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container disposal: Do not re-use empty containers. Empty residue into application equipment. Triple rinse containers. Then offer for recycling or reconditioning or puncture and dispose of in a sanitary landfill or 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 recipient's sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.