



ZHEJIANG RAYFULL CHEMICALS CO., LTD

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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

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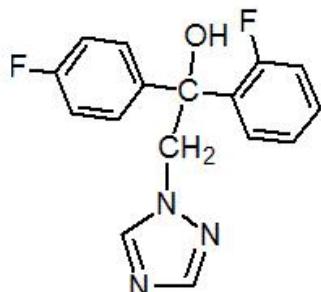
1. Chemical Product Identification

Product Name: Flutriafol 95% TC

Molecular Formula: C₁₆H₁₃F₂N₃O

Molecular Weight: 301.29

Structural Formula:



Chemical Name: (RS)-2,4'-difluoro- α -(1H-1,2,4-triazol-1-ylmethyl)benzhydryl alcohol
(IUPAC)

Form: Powder

Color: White or light yellow

Odor: Odorless

CAS No.: 76674-21-0

2. Composition / Information on Ingredients

Composition	Chemical name	Content (%))
Active ingredient	Flutriafol	95
Other ingredient	-----	5



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3. Hazards Identification

Symptoms of Acute Exposure: May cause eye irritation Hazardous Decomposition Products: Can decompose at high temperature forming toxic gases Unusual fire, Explosion and Reactivity Hazards: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

4. First Aid Measures

Have the product container, label or Material Safety Data Sheet with you when you calling a Poison control center or doctor, or going for treatment.

Ingestion: If swallowed, call a Poison control center or a Doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless to do so by a Poison Control center or Doctor. Do not give anything by mouth to an unconscious person.

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

Skin: Wash affected area with plenty of soap and water for 15 – 20 minutes. Remove contaminated clothing. Launder contaminated clothing separately. Get medical attention.

Inhalation: Move person to fresh air. If person is not breathing 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 if this product is ingested. Treat symptomatically.

5. Fire-Fighting Measures

Unusual Fire, Explosion and Reactivity Hazards: During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In case of Fire: Use dry, chemical, foam or CO₂ extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion.

Prevent use of contaminated buildings, area and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.



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6. Accidental Release Measures

Small Spills: Wear protective equipment to prevent skin and eye contact. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers for disposal.

Large Spills: Wear protective equipment to prevent skin and eye contact. Avoid breathing in vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops or waterways has occurred advise emergency services or State Department of Agriculture.

7. Handling and Storage

Handling advice: Avoid skin and eye contact and breathing in vapour, mists, and aerosols.

Storage advice: Store in the closed, original container in a cool, well-ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room or place away from children, animals, food, feedstuffs, seed and fertilisers.

8. Exposure Controls/Personal Protection

Applicable control measures, including engineering controls: Please refer to the product label for personal protective clothing/equipment.

Personal protective equipment for each exposure route:

Ingestion: Do not eat, drink, smoke or apply cosmetics in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.

Eye Contact: To avoid eye contact, wear safety glasses with side shields or chemical goggles.

Skin Contact: To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.

Inhalation: To avoid breathing dust, wear a pesticide respirator with particulate prefilters. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency ranges from 95-99.7% as appropriate for the size distribution of dust present.

Applicators: Please refer to product label for personal protective clothing and equipment.

9. Physical and Chemical Properties



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Appearance: White or light yellow powder

pH: 7.0-9.0

Acetone insoluble: ≤0.5%

Moisture: ≤0.5%

Density: 1.40 g/ml

Melting Point: Approx. 130°C

Vapor pressure: 4.0×10^{-4} mPa at 25°C

Solubility: 95.0 mg/L in water at 20°C

10. Stability and Reactivity

Chemical stability: Stable under normal conditions of use.

Hazardous polymerisation: Will not occur

Conditions to avoid: Extreme heat and fire

Incompatible materials: None known

Hazardous decomposition products: Thermal decomposition may produce toxic by-products of carbon and nitrogen.

11. Toxicological Information

Acute oral LD50 (rat): >1140 a.i.mg/kg.

Acute dermal LD50 (rat): >1000 a.i.mg/kg

Acute Inhalation LC50 (rat): >5.2 a.i. mg/L.

Skin irritation: Non-irritating (Rabbit)

Eye irritation: Mild-irritating (Rabbit)

Skin Sensitization: Not a Sensitizer (Guinea Pig)

12. Ecological And Ecotoxicological Information

Effect on birds: moderate toxicity to birds, acute oral LD50 for Alectoris rufa is 616 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Bluegill Sunfish is 33.0 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 67 a.i.mg/L.

Effect on algae: low toxicity to algae, acute 72 hour EC50 is 12 a.i.mg/L.



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Effect on honeybees: moderate toxicity to honeybees, contact acute 48 hour LD50 is > 50 a.i. μ g/bee, oral acute 48 hour LD50 is >2.0 a.i. μ g/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 is >500 a.i.mg/kg

13. Disposal Considerations

Triple or (preferably) pressure rinse containers before disposal. Add rinsings to the spray tank. Do not dispose of undiluted chemicals on-site. If recycling replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

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.