



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

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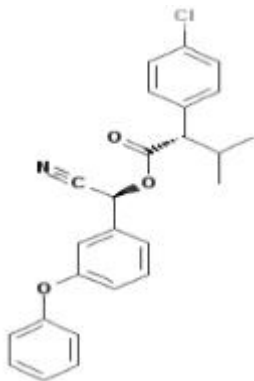
1. Chemical Product Identification

Product Name: Esfenvalerate 95% TC

Molecular Formula: C₂₅H₂₂ClNO₃

Molecular Weight: 419.91 g/mol

Structural Formula:



Chemical Name: (S)- α -cyano-3-phenoxybenzyl (S)-2-(4-chlorophenyl)-3-methylbutyrate

Form: Powder

Color: White

CAS No.: 66230-04-4

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Esfenvalerate	66230-04-4	95.0
Other ingredients		5.0



3. Hazards Identification

Causes eye irritation. Harmful if Absorbed through skin. Avoid contact with skin, eyes or clothing. Combustible liquid, Do not use near heat or open flame or any ignition source.

4. First Aid Measures

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

Inhalation: Move person 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.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a poison control center or a doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

5. Fire-Fighting Measures

This product is classified as combustible.

Hazardous Combustion Products: Small amounts of Hydrogen cyanide may be produced by thermal degradation. Oxides of carbon.

Extinguishing Media: Foam, carbon dioxide, or dry chemical.

Fire Fighting Instructions: Treat as a oil fire. Keep personnel removed and upwind of fire. Use a full-faced self-contained breathing apparatus along with full protective gear. Keep nearby containers and equipment cool with a water spray. Contain the run-off, if possible, for proper disposal.

6. Accidental Release Measures

Small Spill: Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Absorb with appropriate absorbent. Clean spill area of residues and absorbent.



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Large Spill: Shut off ignition sources. Stop release, if possible without risk. Dike or contain release, if possible, and if immediate response can prevent further damage or danger. Isolate and control access to the release area. Take actions to reduce vapors. Collect product into drums, etc. via drains, pumps, etc. Absorb with appropriate absorbent. Clean spill area of residues and absorbent

Waste Disposal Method: Contaminated absorbent and wash water should be disposed of according to local, state and federal regulations.

7. Handling And Storage

Handling: Wear chemically impervious gloves such as neoprene and nitrile. Wear an OSHA-approved safety glasses with side shields, goggles or face shield. Mechanical ventilation should be used when handling this product in enclosed spaces. Wearing a respirator is not normally required when handling this material but recommended in absence of good mechanical ventilation. Do not contaminate water, feed or food by storage, handling or disposal. Read and observe all precautions and instructions on the label.

Storage: Store containers upright and closed. Store in areas that are cool, dry and well-ventilated. Keep away from heat, ignition sources and strong oxidizers. Emptied containers may retain product residues.

8. Exposure Controls / Personal Protection

Engineering Controls: Mechanical ventilation should be used when handling this product in enclosed spaces. Local exhaust ventilation may be necessary.

Respiratory Protection: Wear an OSHA approved respirator with organic vapor cartridge in absence of proper mechanical ventilation.

Skin Protection: Wear chemically impervious gloves and protective clothing. Do not allow contact with skin.

Eye Protection: Wear OSHA-approved safety glasses with side shields, goggles or face shield.

9. Physical And Chemical Properties

Appearance: White powder

Melting Point: 59-60°C

Density: 1.26 g/ml at 24-26°C



Acidity (as H₂SO₄): ≤0.3%

Water content: ≤0.5%

Vapour pressure: 1.15×10⁻³ mPa at 25°C

10. Stability And Reactivity

Chemical Stability: Stable.

Incompatibility: Strong acidic or alkaline materials.

Hazardous Decomposition Products: Small amounts of hydrogen cyanide may be formed by thermal decomposition or by contact with alkaline substances such as soda ash & lye.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Acute oral LD₅₀ for for rats is 90 a.i.mg/kg.

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

Acute inhalatio LC₅₀ (4 h) for rat:>0.48 a.i.mg/L.

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

Eye irritation: Slightly irritating to eyes (rabbits).

Skin sensitization: Non-sensitizing (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD₅₀ for Bobwhite quail is 1312 a.i.mg/kg.

Effect on fish: Acute LC₅₀ (96 h) for Rainbow trout is 0.26 a.i.mg/l.

Effects on aquatic invertebrates: Acute EC₅₀ (48 h) for Daphnia magna is 0.00027 a.i.mg/l.

Effects on algae: Acute 72 hour EC₅₀ for Pseudokirchneriella subcapitata is 0.0065 a.i.mg/l.

Effects on bees: Contact acute 48 hour LD₅₀ is 0.06 a.i.µg/bee, oral acute 48 hour LD₅₀ is 0.21 a.i.µg/bee.

Effects on earthworms: Acute 14 day LC₅₀ is 10.6 a.i.mg/kg.

13. Disposal Considerations

Disposal Method: Product should be disposed of according to local, state and federal regulations. When disposing of waste or surplus avoid contact with eyes and skin. Wear impervious gloves/clothing and chemical safety goggles. Do not wash into drains Do not mix with other waste materials.



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.