



## MATERIAL SAFETY DATA SHEET

### Manufacturer/information service:

ZHEJIANG RAYFULL CHEMICALS CO., LTD

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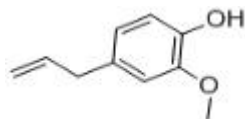
### 1. Chemical Product Identification

Common Name: Eugenol 99% TC

Molecular Formula: C<sub>10</sub>H<sub>12</sub>O<sub>2</sub>

Molecular Weight: 164.2

Structural Formula:



Chemical Name: 4-allyl-2-methoxyphenol

Form: Liquid

Color: Colourless or light yellow

Odor: with the fragrance of lilacs

CAS No.: 97-53-0

### 2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Eugenol	97-53-0	99
Other ingredients	---	1

### 3. Hazards Identification

Potential Health Effects:

Eye: Causes eye irritation.

Skin: Causes skin irritation. May cause skin sensitization, an allergic reaction, which



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becomes evident upon reexposure to this material.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

Inhalation: Causes respiratory tract irritation.

#### **4. First Aid Measures**

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

#### **5. Fire-Fighting Measures**

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters: Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products: Hazardous decomposition products formed under fire conditions: Carbon oxides.

#### **6. Accidental Release Measures**

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wash area with soap and water. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

#### **7. Handling And Storage**

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Use only in a chemical fume hood.



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Storage: Store in a cool, dry place. Store in a tightly closed container. Storage under a nitrogen blanket has been recommended.

## 8. Exposure Controls/Personal Protection

Engineering Controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

## 9. Physical and Chemical Properties

Appearance: Colourless or light yellow liquid

Odor: with the fragrance of lilacs

Density: 1.038-1.060 g/ml (25°C)

Refractive index: 1.527-1.525

Melting point: -9.2°C~9.1°C

Boiling point: 255°C

Flashing point: 110°C

Solubility: Soluble in more than 70% ethanol

Optical rotation: -1.5°~0°

## 10. Stability and Reactivity

Chemical Stability: Substance undergoes color change upon exposure to air.

Conditions to Avoid: Incompatible materials, exposure to air.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.



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## **11. Toxicological Information**

Acute oral LD50 for rats: >1930 a.i.mg/kg

Acute dermal LD50 for rats: >2000 a.i.mg/kg

Acute inhalation toxicity LC50 (4 h) for rats: >2.58 a.i.mg/L

Skin irritation: Irritant to skin (rabbits)

Eye irritation: No data available, considered eye irritant based on skin irritation potential (rabbits)

Skin sensitization: Sensitising (Maximisation test with guinea pigs, Local Lymph Node Assay with mice, human reports).

## **12. Ecological And Ecotoxicological Information**

Effect on birds: Acute oral LD50 for Bobwhite quail is >10000 a.i.mg/kg.

Effect on fish: Acute LC50 (96 h) for Rainbow trout is 5.6 a.i.mg/l.

Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is 1.9 a.i.mg/l.

Effects on algae: Acute 72 hour EC50 for Pseudokirchneriella subcapitata is 15.4 a.i.mg/l.

Effects on bees: contact acute 48 hour LD50 is >200 a.i.µg/bee.

Effects on earthworms: Acute 14 day LC50 is >1000 a.i.mg/kg.

## **13. Disposal Considerations**

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

## **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



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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.