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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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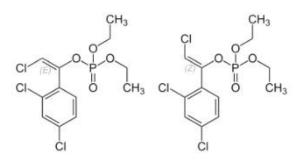
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1. Chemical Product Identification

Product Name: Chlorfenvinphos 90% TC

Molecular Formula: C₁₂H₁₄Cl₃O₄P Molecular Weight: 359.56 g/mol

Structural Formula:



Chemical Name: (EZ)-2-chloro-1-(2,4-dichlorophenyl)vinyl diethyl phosphate

Form: Liquid

Color: Yellow / Brown

Odor: Weak inherent smell

CAS No.: 470-90-6

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Chlorfenvinphos	470-90-6	90.0
Other ingredients		10.0



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3. Hazards Identification

Health Effect: Dangerous if swallowed, inhaled, gets in eyes, or absorbed through the skin.

Excessive sweating, headache, faintness, nausea, pinpoint pupils, blurred vision, muscle twitching. Immediately wash any contamination by the concentrate from the eyes and skin.

4. First Aid Measures

Swallowed: Give a glass or two of water or milk. Do not cause vomiting. Call a doctor. If further than 15 minutes from medical assistance induce vomiting (Take care to avoid patient inhaling the stomach contents).

Eye: Wash eye with gently running water for at least 20 minutes. Don't rub the eye. Lightly cover the eye with a sterile dressing. Transport to hospital.

Skin: Quickly remove clothing, if soaked in the liquid. Wash skin with large quantities of water. Burned areas may be bathed in warm salt solution (1 teaspoon salt per liter). Send to a doctor or hospital.

Inhaled: Remove the casualty from further contamination.

Advice to Doctor: Treat as cholinesterase inhibitor. Atropine sulphate is antidotal.

5. Fire-Fighting Measures

Low - It will burn and may give off choking fumes if involved in a fire. Use water, foam, CO₂, or dry powder to extinguish, depending on the other components in the fire.

6. Accidental Release Measures

Personal cautions: Safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

Cleaning methods

EX: The empty container may be decontaminated by rinsing two or three times with water and detergent and scrubbing the sides.

Environmental cautions

EX: prevent the contamination of the floor and beds of water.

7. Handling And Storage

Handling: Do not apply to humans, their clothing, or bedding. Do not contaminate food or use on household tanks.



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Storage: Store at normal temperatures, away from children, domestic animals, food and feed products, seed and fertilizer. Do not contaminate other stored products or the storage area by handling or storage of this product. Keep in a well-ventilated room.

8. Exposure Controls / Personal Protection

Personal Protective Equipment: Workplace controls are better than personal protective equipment. However, for some jobs (such as outside work, confined space entry, jobs done only once in a while, or jobs done while workplace controls are being installed), personal protective equipment may be appropriate.

9. Physical And Chemical Properties

Form: Liquid

Color: Yellow / Brown

Odor: weak inherent smell

Melting point: -20°C

Boiling point: 167

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

Bulk density/Specific gravity: 1.36 g/mol

Vapour pressure: 0.53 m pa at 25°C

Moisture content: ≤0.5%

pH: 5.0-8.0

10. Stability And Reactivity

Stability: Stable.

Conditions/Materials to Avoid (Incompatibility): Excessive heat and fire.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Acute oral LD₅₀ for rat: 12 a.i.mg/kg.

Acute dermal LD₅₀ for rat: 31 a.i.mg/kg.

Acute inhalation LC₅₀(4 h) for rat: 0.05 a.i. mg/L.

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

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



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Skin sensitization: Not a skin sensitiser (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: high toxicity to birds, acute oral LD_{50} for Colinus virginianus is 80 a.i.mg/kg. Effect on fish: moderate toxicity to fish, acute 96 hour LC_{50} for Salmonidae is 1.1 a.i.mg/L. Effect on aquatic invertebrates: high toxicity to aquatic invertebrates, acute 48 hour EC_{50} for Daphnia magna is 0.00025 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC₅₀ for Scenedemus subspicatus is 1.36 a.i.mg/L.

Effect on honeybees: high toxicity to honeybees, Oral acute 48 hour LD₅₀ is 0.55 a.i. μ g/bee. Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC₅₀ is 130 a.i.mg/kg.

13. Disposal Considerations

Dispose of empty containers safely. Avoid contamination of any water supply with chemical or empty container.

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.