ZHEJIANG RAYFULL CHEMICALS CO., LTD

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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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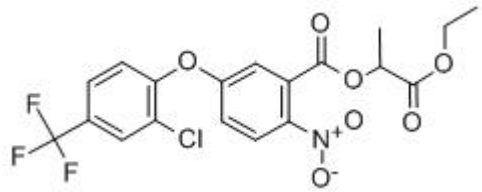
1. Chemical Product Identification

Common Name: Lactofen 24% EC

Molecular Formula: $C_{19}H_{15}ClF_3NO_7$

Molecular Weight: 461.80

Structural Formula:



Chemical Name: ethyl O-[5-(2-chloro-α,α,α-trifluoro-p-tolyloxy)-2-nitrobenzoyl]-DL-lactate

Form: Liquid

Color: Dark brown

Odor: Slight odour

CAS No.: 77501-63-4

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Lactofen	77501-63-4	24
Other ingredients	---	76

3. Hazards Identification

Hazard statements: Causes skin irritation. Causes serious eye damage. May be fatal if swallowed and enters airways. Combustible liquid.

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Precautionary Statements - Prevention: Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep away from heat/sparks/open flames/hot surfaces. No smoking.

4. First Aid Measures

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

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison control center or doctor for treatment advice.

Skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash contaminated clothing before reuse. If skin irritation persists, call a physician. Call a poison control center or doctor for treatment advice.

Inhalation: Move victim to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician or poison control center immediately. Call a poison control center or doctor for treatment advice.

Ingestion: Call a physician or poison control center immediately. Drink 1 or 2 glasses of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

5. Fire-Fighting Measures

Suitable extinguishing media: Dry chemical, CO2, water spray or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. Water spray, fog or regular foam.

Unsuitable extinguishing media: None.

Specific hazards arising from the chemical: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Hazardous combustion products Carbon oxides. Hydrogen chloride.

Protective equipment and precautions for firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers / tanks with water spray.

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6. Accidental Release Measures

Personal precautions: Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. Keep people away from and upwind of spill/leak.

For emergency responders: Use personal protection recommended in Section 8. Ventilate the area.

Environmental precautions: Prevent entry into waterways, sewers, basements or confined areas.

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Cover liquid spill with sand, earth or other non-combustible absorbent material. Sweep up and shovel into suitable containers for disposal.

7. Handling And Storage

Precautions for safe handling:

Advice on safe handling: Use personal protective equipment as required. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities:

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feeding stuffs. Keep in properly labeled containers.

Packaging materials: Do not reuse container.

Incompatible materials: Strong oxidizing agents.

8. Exposure Controls/Personal Protection

Engineering Controls: Ensure adequate ventilation, especially in confined areas. And. Showers. Eyewash stations. Ventilation systems.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: Wear suitable protective clothing. Wear protective butyl rubber gloves. Protective shoes or boots.

Respiratory protection: Ensure adequate ventilation, especially in confined areas. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for

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high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations: When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Wash hands thoroughly after handling. Keep away from food, drink and animal feeding stuffs. Wash contaminated clothing before reuse.

9. Physical and Chemical Properties

Appearance: Dark brown liquid

pH: 7.0-9.0

Water content: ≤0.5%

Emulsibility: Qualified.

10. Stability and Reactivity

Reactivity: No data available.

Chemical stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: None under normal processing.

Conditions to avoid: Elevated Temperature. Storage near to reactive materials.

Incompatible materials: Strong oxidizing agents.

Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon oxides. Hydrogen chloride.

11. Toxicological Information

Acute oral LD50 for rats: >5000 a.i.mg/kg

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

Acute inhalation toxicity LC50 (4 h) for rats: 5.3 a.i.mg/L

Skin irritation: Slightly irritating to skin (rabbits)

Eye irritation: Severely irritating to eyes (rabbits)

Skin sensitization for guinea pig: Non-sensitizing

12. Ecological And Ecotoxicological Information

Effect on birds: Acute oral LD50 for Bobwhite quail is >2510 a.i.mg/kg.

Effect on fish: Acute LC50 (96 h) for Bluegill sunfish is >0.10 a.i.mg/l.

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Effects on aquatic invertebrates: Acute EC50 (48 h) for Daphnia magna is >8.4 a.i.mg/l. Effects on bees: contact acute 48 hour LD50 is >160 a.i.μg/bee.

13. Disposal Considerations

Disposal of wastes: Pesticide wastes may be acutely hazardous. Improper disposal is a violation of federal law. Disposal should be in accordance with applicable regional, national and local laws and regulations. Contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative.

Contaminated packaging: Disposal should be in accordance with applicable regional, national and local laws and regulations. Consult product label for additional information. Do not reuse 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.