



ZHEJIANG RAYFULL CHEMICALS CO., LTD

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MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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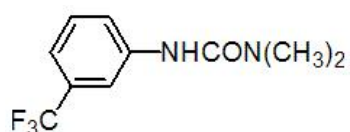
1. Chemical Product Identification

Common Name: Fluometuron 90% TC

Molecular Formula: $C_{10}H_{11}F_3N_2O$

Molecular Weight: 232.20

Structural Formula:



Chemical Name: 1,1-dimethyl-3-(α,α,α -trifluoro-m-tolyl)urea

Form: Powder

Color: White

Odor: Mild odor

CAS No.: 2164-17-2

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Fluometuron	2164-17-2	90
Other ingredients	---	10

3. Hazards Identification

Environmental hazard: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.



4. First Aid Measures

Inhalation: Remove victim to fresh air. If breathing is difficult: artificial respiration. Get medical attention.

Ingestion: Wash out mouth with plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

Skin contact: Remove contaminated clothing and shoes. Wash away remainder with plenty of water.

Eye contact: Wash out with plenty of water with the eyelid held wide open for at least 15 minutes. Get medical attention.

Note to physician: No specific antidote known. Treat symptomatically and give supportive therapy.

5. Fire-Fighting Measures

Extinguishing media: For small fire: dry chemical powder, water spray, carbon dioxide. For large fire: foam, water fog, water spray.

Hazardous decomposition products: Sulfur oxides, fluorides, nitrogen oxides (NO, NO₂...) , carbon oxides (CO, CO₂) .

Protection of fire-fighters: Self-contained breathing apparatus and total protection required in enclosed areas.

6. Accidental Release Measures

Personal precautions: Wear suitable protective clothing, gloves and eye/face protection.

Environmental precautions: Do not empty into drains. Do not discharge into the environment.

After spillage and/or leakage: Absorb in sand or other inert material. Collect spills and put it into appropriated container. Dispose of this material and its container at hazardous or special waste collection point.

7. Handling And Storage

Handling: Keep exposure to this product to a minimum, and minimize the quantities kept in work areas. Check details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimize risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials.



Storage: Make sure that containers of this product are kept tightly closed. Keep containers of this product in a well ventilated area.

8. Exposure Controls/Personal Protection

Engineering measures: Ventilation required.

Industrial hygiene: Wash hands thoroughly after handling. When using do not eat, drink or smoke. Wash clothing before re-using.

Personal protection

Respiratory protection: No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation.

Skin protection: Wear suitable protective clothing Wear safety boots.

Hand protection: Wear suitable gloves.

Eye protection: Chemical goggles or safety glasses.

9. Physical and Chemical Properties

Appearance: White powder

Loss On Drying: $\leq 1.0\%$

PH Value: 6.0-8.0

Melting point: 152.5°C

Bulk density: 1.39 g/ml

Partition Coefficient: $\log P = 2.28$ (at pH 7, 20°C)

Vapour pressure: 0.125 mPa (25°C)

Solubility: 111 mg/l in water (20°C); In organic solvents: 109 g/l in methanol, 144 g/l in acetone, 20.6 g/l in n-octanol, 1.98 g/l in xylene (all at 20°C).

10. Stability and Reactivity

Stability: Stable under normal conditions.

Hazardous decomposition products: Sulfur oxides , fluorides , nitrogen oxides (NO, NO₂...) , carbon oxides (CO, CO₂) .

Materials to avoid: oxidizing agents , acids , alkali.

11. Toxicological Information

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



Acute dermal LD50 for rat: >2000 a.i.mg/kg
Inhalation LC50 (4 h) for rat: >4.62 a.i.mg/L
Skin irritation: Slightly irritating to skin (rabbits)
Eye irritation: Slightly irritating to eyes (rabbits)
Skin sensitization: Not a skin sensitiser (guinea pigs).

12. Ecological And Ecotoxicological Information

Effect on birds: low toxicity to birds, acute LD50 for Mallard ducks is 2974 a.i.mg/kg.
Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Rainbow trout is 30 a.i.mg/L.
Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 54 a.i.mg/L.
Effect on algae: moderate toxicity to algae, acute 72 hour EC50 for Pseudokirchneriella subcapitata is 0.32 a.i.mg/L.
Effect on honeybees: low-moderate toxicity to honeybees, contact acute 48 hour LD50 is >100 a.i.µg/bee, oral acute 48 hour LD50 is >34.0 a.i.µg/bee.
Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 for Eisenia foetida is >500 a.i.mg/kg.

13. Disposal Considerations

Disposal: Dispose of in a pesticide approved landfill, or in a chemical incinerator equipped with scrubbers. Dispose in a safe manner in accordance with local/national regulations.

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



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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.