



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

Tel: +86-577-88905587

Fax: +86-577-88905567

Email: info@rayfull.com

sales@rayfull.com

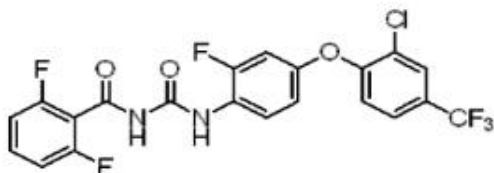
1. Chemical Product Identification

Product Name: Flufenoxuron 95% TC

Molecular Formula: C₂₁H₁₁ClF₆N₂O₃

Molecular Weight: 488.77 g/mol

Structural Formula:



Chemical Name: 1-[4-(2-chloro- α,α,α -trifluoro-p-tolyloxy)-2-fluorophenyl]-3-(2,6-difluorobenzoyl)urea

Form: Solid

Color: White or light yellow

Odor: Odorless

CAS No.: 101463-69-8

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Flufenoxuron	101463-69-8	95.0
Other ingredients		5.0

3. Hazards Identification



May irritate eyes and skin.

4. First Aid Measures

Swallowed: If swallowed, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Keep under medical supervision.

Eye: Rinse immediately with clean water, including under eyelids, for at least 15 minutes and obtain medical advice.

Skin: Remove contaminated clothing. Wash affected areas with plenty of soap and water.

Inhaled: If inhaled, remove to fresh air and obtain medical advice.

First Aid Facilities: Ensure washing facilities are available including eyewash facilities.

Other Information: Do not attempt to give anything to a semi-conscious or unconscious person.

5. Fire-Fighting Measures

Fire Fighting Procedures: Firefighters should wear full protective gear, including self-contained breathing apparatus. If possible and without risk, remove intact containers from exposure to fire. Otherwise, spray unopened containers with water to keep cool. Whenever possible, contain fire-fighting water by bunding area with sand or earth to prevent it entering any bodies of water.

Extinguishing Media: Carbon dioxide, water spray, dry agent, foam.

Stability and Reactivity: Stable under normal conditions of use. No dangerous reaction known under normal conditions of use. Avoid extreme heat and fire.

6. Accidental Release Measures

Dealing with spills and disposal may result in the potential for increased personal exposure.

During such operations it is recommended that the following protective clothing is worn: Cotton overalls buttoned to the neck and wrist Waterproof gloves Contain spill, sweep up or shovel and place in properly labelled sealed drums for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc. Is unavoidable, warn the local water authority.

7. Handling And Storage



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EMAIL: info@rayfull.com sales@rayfull.com

Handling: Keep out of reach of children. Avoid contact with eyes, skin and clothing. Wear long sleeved overalls and gloves while handling. After handling and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Storage: Store in the closed original container in a cool, well ventilated, locked place out of the reach of children. Do not store in direct sunlight.

8. Exposure Controls / Personal Protection

Exposure standards: No occupational exposure standards have been established for the product or its ingredients.

Engineering controls: Control process conditions to avoid contact.

Personal Protective Equipment:

Eyes: Not normally required. Avoid touching eyes while handling product.

Clothing: Avoid skin contact; full-length work clothes should be worn when using this product.

Gloves: Avoid contact with skin; wear waterproof gloves.

Respiratory: Not required.

9. Physical And Chemical Properties

Form: Solid

Color: White or light yellow

Odor: Odorless

Melting point: 169-172°C

Boiling point: Decomposes before boiling

Density: 1.57 g/mL at 20°C

pH: 5.0-7.0

Moisture: ≤0.5%

10. Stability And Reactivity

Chemical stability: Stable under normal conditions of use. No dangerous reaction known under normal conditions.

Hazardous polymerisation: None

Conditions to avoid: Extreme heat and fire

Incompatible materials: None known



Hazardous decomposition products: Thermal decomposition may produce toxic by-products of carbon and nitrogen.

11. Toxicological Information

Acute oral LD₅₀ for rat: >3000 a.i.mg/kg.

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

Acute inhalation LC₅₀ (4 h) for rat: >3.3 a.i. mg/L.

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

Eye irritation: Non- 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 *Colinus virginianus* is >2000 a.i.mg/kg.

Effect on fish: high toxicity to fish, acute 96 hour LC₅₀ for Rainbow trout is >0.0049 a.i.mg/L.

Effect on aquatic invertebrates: high toxicity to aquatic invertebrates, acute 48 hour EC₅₀ for *Daphnia magna* is 0.000043 a.i.mg/L.

Effect on algae: moderate toxicity to algae, acute 72 hour EC₅₀ for *Pseudokirchneriella subcapitata*, Biomass is 5.11 a.i.mg/L.

Effect on honeybees: low toxicity to honeybees, contact acute 48 hour LD₅₀ is >100 a.i.µg/bee; Oral acute 48 hour LD₅₀ is >109.1 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

Triple or (preferably) pressure rinse containers before disposal. Add rinsings to the spray tank. Do not dispose of undiluted chemicals on-site. If recycling replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If no landfill is available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.



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.