



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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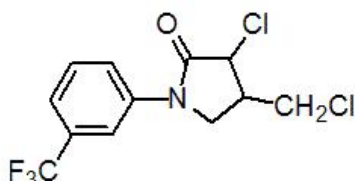
1. Chemical Product Identification

Common Name: Flurochloridone 95% TC

Molecular Formula: C₁₂H₁₀Cl₂F₃NO

Molecular Weight: 312.12

Structural Formula:



Chemical Name: (3*RS*,4*RS*;3*RS*,4*SR*)-3-chloro-4-chloromethyl-1-(α,α,α -trifluoro-*m*-tolyl)-2-pyrrolidone

Form: Powder

Color: Brown

Odor: with a garlic-like odor

CAS No.: 61213-25-0

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Flurochloridone	61213-25-0	95
Other ingredients	---	5

3. Hazards Identification

Keep out of the reach of children.



Keep away from food, drink and animal feedingstuffs.

Avoid contact with skin.

Do not empty into drains ; dispose of this material and its container in a safe way.

Wear suitable protective clothing and gloves.

If swallowed seek medical advice immediately and show this container or label.

Use appropriate container to avoid environmental contamination.

This material and its container must be disposed of as hazardous waste.

4. First Aid Measures

Inhalation : Remove victim to fresh air. Keep person warm and at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

Skin contact : Take off immediately all contaminated clothing. Wash contaminated skin with soap and water. Get medical attention if symptoms occur.

Eye contact : Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. If irritation persists, get medical attention.

Ingestion : Wash out mouth with water if person is conscious. Never give anything by mouth to an unconscious person. Get medical attention.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media: Use DRY chemicals, CO₂, water spray or foam.

Special hazards arising from the substance or mixture

Specific hazards: Flashback may occur along vapour trail.

Hazardous decomposition products: Chloride compounds , Nitrogen oxide and Fluoride compounds

Advice for fire-fighters

Protection against fire: Wear suitable protective clothing, gloves and eye/face protection. Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Special procedures: Exercise caution when fighting any chemical fire. In case of insufficient ventilation, wear suitable respiratory equipment.



6. Accidental Release Measures

Personal precautions, protective Exercise appropriate precautions to minimize direct contact equipment: with skin and eyes and to prevent inhalation. Use personal protective clothing, gloves and eye/face protection. Ensure adequate ventilation.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. Prevent entry into waterways, sewers, basements or confined area.

Methods and materials for Contain product with an inert diking material. Place containment and cleaning up reclaimed product in a closed and properly labeled waste drum. Store drum in separate area until proper disposal. Flash residue with water. Dispose of contents/container in accordance with national/ international regulations.

7. Handling And Storage

Precautions for safe handling: Avoid contact with eye, skin and clothing. Wash hands and exposed skin thoroughly after handling. Wear suitable protective clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities: Keep away from sources of ignition. Keep locked up and out of the reach of children. Keep container in a well ventilated and place. Keep cool. Keep away from food, drink and animal feedstuffs. Store in original containers only. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

8. Exposure Controls/Personal Protection

Occupational exposure limits: Flurochloridone: Not established Aromatic solvent: 25 ppm

Appropriate engineering controls: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations low. Ensure that eyewash stations and safety showers are in proximity to the work-station location.

Personal protective equipment: Long sleeve shirt, long pants, boots, chemical resistant gloves, dust or mist respirator, and protective eyewear.

9. Physical and Chemical Properties

Appearance: Brown powder

pH: 4.0-6.0



Water content: $\leq 0.5\%$

Melting point: 40.9°C

Boiling point: Decomposes before boiling

Bulk density: 1.19 g/ml

Partition Coefficient: $\log P = 3.36$ (at pH 7, 20°C)

Vapour pressure: 0.27 mPa (25°C)

Solubility: 21.9 mg/l in water (20°C); In organic solvents: 540 g/l in acetone, 592 g/l in ethyl acetate, 326 g/l in methanol, 616 g/l in toluene (all at 20°C).

10. Stability and Reactivity

Reactivity: Stable under normal conditions. Non corrosive to aluminum zinc and copper. Little corrosive to polyethylene.

Chemical stability: Stable under normal temperatures and pressure.

Possibility of hazardous reactions: None known. Hazardous polymerization does not occur.

Conditions to avoid: High temperature. Open flame.

Incompatible materials: Not available

Hazardous decomposition products: Chloride compounds, Fluoride compounds, nitroge oxides.

11. Toxicological Information

Acute oral LD50 for rat: >2150 a.i.mg/kg.

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

Inhalation LC50 (4 h) for rat: >4.82 a.i. mg/L.

Skin irritation: Non-irritant to skin (rabbits)

Eye irritation: Non-irritant 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 Bobwhites quail is >2150 a.i.mg/kg.

Effect on fish: moderate toxicity to fish, acute 96 hour LC50 for Rainbow trout is 3.0 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is 5.1 a.i.mg/L.



Effect on algae: high toxicity to algae, acute 72 hour EC50 for *Scenedemus subspicatus* is 0.0047 a.i.mg/L.

Effect on honeybees: moderate toxicity to honeybees, contact acute 48 hour LD50 is 100 a.i.µg/bee, oral acute 48 hour LD50 is 100 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 for *Eisenia foetida* is >227 a.i.mg/kg.

13. Disposal Considerations

Do not reuse empty containers. Wash empty containers three times with water and pour the washing water into the tank sprayer. Then offer for recycling or reconditioning, or puncture and dispose of in accordance with local 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 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.