



MATERIAL SAFETY DATA SHEET

Manufacturer/information service:

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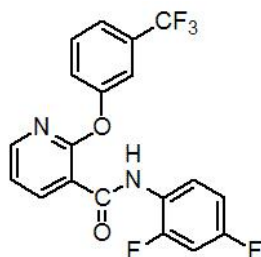
1. Chemical Product Identification

Common Name: Diflufenican 98% TC

Molecular Formula: C₁₉H₁₁F₅N₂O₂

Molecular Weight: 394.29

Structural Formula:



Chemical Name: 2',4'-difluoro-2-(α,α,α -trifluoro-m-tolyloxy)nicotinamide

Form: Powder

Colour: White

Odor: Odorless

CAS No.: 83164-33-4

2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Diflufenican	83164-33-4	98
Other ingredients	---	2

3. Hazards Identification



Hazard Statements

H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statements

P102: Keep out of reach of children.

P501: Dispose of contents/ container to an approved waste disposal plant.

EU Specific Hazard Statements

EUH208: Contains 1,2-Benzisothiazolin-3-one. May produce an allergic reaction.

EUH401: To avoid risks to human health and the environment, comply with the instructions for use.

Additional phrases for PPP

SP1: Do not contaminate water with the product or its container.

4. First Aid Measures

General advice: Remove contaminated clothing immediately and dispose of safely.

Inhalation: Move the victim to fresh air and keep at rest. If symptoms persist, call a physician.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

Eye contact: In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Do NOT induce vomiting. Keep patient warm and at rest. If symptoms persist, call a physician.

5. Fire-Fighting Measures

Extinguishing Media: Water, foam, dry agent, carbon dioxide.

Special Procedures: Full protective gear, including self-contained breathing apparatus must be worn. Do not release contaminated water into the environment. Keep intact containers cool by spraying with water.

Reactivity Hazards: Stable under normal conditions of use. Avoid extreme heat and fire. Oxides of carbon and nitrogen, and compounds of fluorine including hydrofluoric acid may be formed in a fire.



6. Accidental Release Measures

Personal precautions: When dealing with a spillage do not eat, drink or smoke. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Keep people away from and upwind of spill/leak.

Environmental precautions: Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods for cleaning up: Recover the product by pumping, suction or absorption using a dry and inert absorbent clay. Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice: Check also for any local site procedures.

7. Handling And Storage

Handling: Avoid inhalation of spray and fumes and contact with skin and eyes. Use with adequate ventilation. Wash hands before eating, chewing gum, smoking or using the toilet. Remove clothing immediately if the herbicide gets inside. Then wash skin using nonabrasive soap. Do not apply directly to areas to surfaces where water is present, or to intertidal areas below the mean high water mark.

Storage: Store in its original labelled containers in shaded, well ventilated areas, away from heat, sparks or other sources of ignition. Not to be stored next to food stuffs and water supplies. Keep out of reach of children and animals.

8. Exposure Controls/Personal Protection

Engineering Controls: Control process conditions to avoid contact. Use only in a well ventilated area.

Personal Protection: This product has a low toxicity, but if exposure to a large amount is likely, the following protection is recommended:

Eyes: Wear glasses or goggles.

Clothing: Wear long-sleeved overalls.

Gloves: Wear elbow length PVC gloves.

Respiratory: Not normally required. Wear an organic cartridge respirator if inhalation of spray is possible.



Other: Always wash hands after use.

Flammability: Non flammable.

9. Physical and Chemical Properties

Appearance: White powder

Acidity (as H₂SO₄): ≤0.5%

Moisture content: ≤1.0%

Insoluble in acetone: ≤0.3%

Melting point: 159.5°C

Boiling point: Decomposes before boiling

Bulk density: 1.54 g/ml

Partition Coefficient: log P = 4.2 (at pH 7, 20°C)

Vapour pressure: 4.25×10⁻³ mPa (25°C)

Solubility: 0.05 mg/l in water (20°C); In organic solvents: 4.7 g/l in methanol, 65.3 g/l in ethyl acetate, 72.2 g/l in acetone, 114 g/l in dichloromethane (all at 20°C).

10. Stability and Reactivity

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No hazardous reactions when stored and handled according to prescribed instructions.

Conditions to avoid: Extremes of temperature and direct sunlight.

Incompatible materials: Store only in the original container.

Hazardous decomposition products: Thermal decomposition can lead to release of: Oxides of carbon; Nitrogen oxides (NO_x); Hydrogen fluoride.

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: >5.12 a.i. mg/L

Skin irritation: Non-irritant to skin (rabbits)

Eye irritation: Non-irritant to eyes (rabbits)

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



12. Ecological And Ecotoxicological Information

Effect on birds: low toxicity to birds, acute oral LD50 for Bobwhites quail is >2150 a.i.mg/kg.

Effect on fish: high toxicity to fish, acute 96 hour LC50 for carp is >0.099 a.i.mg/L.

Effect on aquatic invertebrates: moderate toxicity to aquatic invertebrates, acute 48 hour EC50 for Daphnia magna is >0.24 a.i.mg/L.

Effect on algae: high toxicity to algae, acute 72 hour EC50 for Scenedemus subspicatus is 0.00025 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 >112.3 a.i.µg/bee.

Effect on earthworms: moderate toxicity to earthworms, acute 14 day LC50 is >500 a.i.mg/kg.

13. Disposal Considerations

Product: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not dispose of waste into sewer. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging: Empty remaining contents. Triple rinse containers. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

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



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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.