

Date: Jul.13th, 2025

MATERIAL SAFETY DATA SHEET OF DIFLUFENICAN TECH

SECTION 1 : CHEMICAL PRODUCT

Product Name: DIFLUFENICAN 98% TC

Chemical Name of Active Ingredient (IUPAC):

2,4-difluoro-2-(a,a,a-trifluoro-m-tolyloxy) nicotinanilide

Chemical Type: Nicotinanilide

Chemical Formula of Active Ingredient: C₁₉H₁₁F₅N₂O₂ CAS

Registry Number: 83164-33-4

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Content (g/kg)
diflufenican	83164-33-4	min.980
Inerts	Not applicable	max.20

SECTION 3: HAZARDS IDENTIFICATION

Emergency overview: immediate concerns:

- harmful if swallowed , inhaled , or absorbed through skin.
- Causes eye irritation
- Do not get on skin, in eyes, or on clothing
- Avoid breathing vapor or spray mist

Medical conditions aggravated: none known

Ingestion: This product has a low acute oral toxicity, but may be harmful if a large amount is swallowed.

Skin Contact & Absorption: Not a skin irritant. Studies indicate that this product is not a sensitising agent. Eye

Contact: Mild eye irritant.

Inhalation: May irritate mucous membranes of nose and mouth.

Chronic Health effects: Long term studies on rats, mice and dogs showed no carcinogenic teratogenic or oncogenic potential for diflufenican. Diflufenican was not mutagenic. The no observable effect level listed by the Therapeutic Goods Administration for diflufenican is 16.3-mg/kg bw/day.

SECTION 4: FIRST AID MEASURES

If poison occurs, immediately contact a doctor .

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Eye contact: Rinse immediately with clean water for at least 15 minutes and obtain medical aid.

Skin contact: Carefully remove contaminated clothing. Wash affected areas with soap and water. Seek medical aid if at all worried.

Inhalation: Remove victim to fresh air and keep at rest. Obtain medical advice if at all worried.

Ingestion: Wash out mouth with water. Do not induce vomiting. Keep patient at rest and seek medical advice as above. DO NOT attempt to give anything by mouth to a semi-conscious or unconscious person.

First Aid Facilities: Ensure washing facilities are available.

Notes to physician: This compound does not cause any definitive symptoms that would be diagnostic. No specific antidote is available. Treat the patient symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

Unsuitable extinguishing Media: none

Extinguishing Media: Product is not combustible. If product is involved in a fire, use dry powder, water fog, foam, CO2 or sand.

Special exposure hazards: may give off toxic fumes if heated to decomposition.

Protective equipment for fire-fighting: do not breathe fumes. Wear self contained breathing apparatus.

Fire fighting guidance: 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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: avoid contact with spilled material or contaminated surfaces. If ordinary clothing becomes contaminated remove it immediately. When dealing with the spillage do not eat, drink or smoke and wear personal protective clothing as detailed in Section 8.

Environmental Precautions: Keep people and animals away. Prevent entry into drains, sewers and watercourses. If spillage enters drains leading to sewage works inform local water company immediately. If spillage enters rivers or watercourses, inform the Environment Agency. Overseas, inform the appropriate authority immediately.

Spillages: Contain/absorb spillage in sand /earth or in a suitable inert material.

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Transfer collected material to heavy duty plastic drums and keep safe for disposal.

Note : Check also for any local site procedures in force.

SECTION 7: HANDLING AND STORAGE

Handling Precautions: Keep out of reach of children. Avoid contact with the eyes and skin.

Storage Precautions: Store in the closed original container in a dry, cool, well-ventilated area, out of direct sunlight. Store in locked room or place away from children, animals, food, animal feed, seed and fertilizers. Protect from frost

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits: PEL (Permissible Exposure Level) for diflufenican recommended by 4Farmers Pty Ltd is 2.3 mg/m³

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:

Eye/face: to protect against accidental eye contact, wear goggles, face shield, or safety glasses.

Skin protection: Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves, and chemical-resistant footwear plus socks. See label for additional precautions and user safety recommendations.

Respiratory Protection: supplied air respirators should be worn.

Work hygienic practices: Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide get inside. Then wash thoroughly and put on clean clothing . Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Colour: colorless

Odour: no

Physical state: crystals

Purity of the technical active compound: 98% min

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KowlogP : 4.90 (25°C)

Henry : 0.033 Pa m³ mol⁻¹

Melting Point : 159-161°C

Vapor pressure: 4.25 * 10⁻³ mPa (25°C, gas saturation method)

Solubility : In water <0.05mg/l (25°C). Soluble in most organic solvents, e.g.

acetone, dimethylformamide 100, acetophenone, cyclohexane 50, isophorone 35, xylene 20, cyclohexane, 2-ethoxyethanol, kerosene < 10 (all in g/l, 20°C)

Stability : Stable in air up to melting point. At 22, very stable in aqueous solution at PH 5,7 and 9. Fairly stable to photolysis.

Flash Point : no available

SECTION 10: STABILITY AND REACTIVITY

Stability : Not hydrolysed within 24 h (PH 7, 20°C).

Incompatible materials: avoid contact with strong oxidizing agents. Conditions to avoid : heat and open flame.

Hazard Polymerization: will not occur.

Comments: product is not an oxidizer and is not corrosive to metal.

SECTION 11 : TOXICOLOGICAL INFORMATION

LD50 oral : Acute oral LD50 for rats >2000 mg/kg. Mice >1000 ,rabbits > 5000 mg/kg.

LD50 dermal: Acute percutaneous LD50 for rats >2000mg/kg Inhalation : LC50 (4h) for rats> 2.34 mg/l air.

Eye irritation : none irritant to eyes (rabbits)

Skin irritation: none irritant to skin (rabbits)

Skin sensitization: None sensitizing to skin (guinea pigs)

NOEL : in 14 d sub-acute trials in rats, no adverse effect observed at 1600 mg/kg b.w. In 90 d feeding trials, NOEL for dogs was 1000 mg/kg b.w. daily, for rats 500 ppm diet.

Other : non- mutagenic in the Ames test.

SECTION 12: ECOLOGICAL INFORMATION

Birds : Acute oral LD50 (14 d) for quail > 2150 mg/kg, mallard ducks > 4000 mg/kg.

Fish : LC50 (96h) for rainbow trout 56-100, carp 105 mg/l. Bees :

Non-toxic by ingestion or contact

Worms : Non-toxic to earthworms.

Daphnia : LC50 (48h) -no effect at 10 mg/l.

Algae : no growth inhibition of algae (96h) at 10 mg/l.

Environmentals fate:

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Plants: In cereals, rapidly metabolized via the nicotinamide and nicotinic acid to CO₂. Following pre-emergence application in autumn, no residues are detectable in the grain and straw after c. 200-250 days.

Soil/Environment: In soil degradation proceeds via the metabolites 2-(3-trifluoromethylphenoxy)nicotinamide and 2-(3-trifluoromethylphenoxy)nicotinic acid to bound residues and CO₂. Half-life varies from 15 to 30 weeks, depending on soil type and water content.

SECTION 13 : DISPOSAL CONSIDERATIONS

Product disposal: disposal of product would usually be by incineration in an appropriately licensed commercial incinerator. Small quantities may be accepted in licensed landfill sites. Advice may be obtained from the local waste regulation authority.

Container disposal: lightly contaminated packaging may be acceptable for landfill, otherwise incineration will be required.

SECTION 14: TRANSPORT INFORMATION

Take with care. Keep locked up. Keep away from fire. Do not contaminate water, food, or feeds by stage or disposal.

class: 9

un no.: 3077

packing group: III

SECTION 15: REGULATOR INFORMATION

Notice: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations.

Risk Phrase:

R20: Harmful by inhalation.

Safety Phrase:

S13 Keep away from food, drink and animal feeding stuffs.

S2 Keep out of the reach of children.

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Packaging & Labeling

Caution: keep out of reach of children

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Read safety directions before opening or using

European/International Regulation:

Hazard Codes : Xn

SECTION 16: OTHER INFORMATION

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