

Nichino America, Inc. UMBRA Fungicide

1. IDENTIFICATION

Product Name: Umbra Fungicide
General Use: Fungicide
Product Description: Systemic fungicide for use on soil-borne and foliar diseases
EPA Reg. No.: 71711-48

**Manufacturer
Main Headquarters:** Nihon Nohyaku Co., Ltd., Kyobashi OM Building, 19-8
Kyobashi 1-chome, Chuo-ku, Tokyo 104-8386 JAPAN

US Connection: Nichino America Inc.
4550 Linden Hill Road, Suite 501
Wilmington, Delaware 19808, USA
Phone: 302-636-9001
Fax: 302-636-9122

Emergency and health and safety inquiries: (800) 348-5832 (24 hours)
In case of fire or spills: (800) 424-9300 (24 hours)
In case of international shipments: (703) 527-3887 (24 hours)

2. HAZARD(S) IDENTIFICATION

Classified according to OSHA 29 CFR 1910.1200 HCS

Classification:
Acute Toxicity (Inhalation): Category 4

GHS Signal Word: WARNING



Hazard Statements:

- Harmful if inhaled

Precautionary Statements:

Prevention:

Avoid breathing mist.

Use only outdoors or in a well-ventilated area.

Response:

If inhaled: Remove person to fresh air and keep comfortable for breathing.

Call a poison control center or doctor if you feel unwell.

3. COMPOSITION / INFORMATION ON INGREDIENTS

| Chemical Name | CAS Number | Percentage |
|--|------------|------------|
| Flutolanil CAS name: Benzamide, N-[3-(1-methylethoxy)phenyl]-2-(trifluoromethyl)- | 66332-96-5 | 32.7% |
| Flutriafol CAS name: (±)-α-(2-fluorophenyl)-α-(4-fluorophenyl)-1H-1,2,4-triazole-1-ethanol] | 76674-21-0 | 4.0% |
| *Other ingredients | | 63.4% |

***Specific chemical identity and percentage of composition withheld as a trade secret**

4. FIRST AID MEASURES

Eye Contact

Causes mild eye irritation. Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or doctor for treatment advice.

Ingestion

Harmful if swallowed. Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control

center or doctor. Do not give anything by mouth to an unconscious person.

Skin Contact

Harmful if absorbed through skin. Avoid contact with skin, eyes or clothing. Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Most important symptoms and effects, both acute and delayed

Refer to Section 11 for Toxicological Information.

5. FIRE FIGHTING MEASURES

| | |
|--|--|
| Suitable (and unsuitable) extinguishing media | Foam, dry chemical powder, carbon dioxide, or water (spray) |
| Unsuitable extinguishing media | No information available |
| Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products) | Combustion or thermal decomposition may evolve toxic vapors (CO ₂ , CO, NO _x , HF) |
| Special protective equipment and precautions for fire-fighters | Firefighters should wear full protective clothing and self-breathing apparatus. Avoid inhalation of dust and gas and contact with skin and eyes. Keep people away. Isolate fire and deny unnecessary entry. Do not use direct water stream as this may spread fire. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Water fog, applied gently may be used as a blanket for fire extinguishment. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. |

6. ACCIDENTAL RELEASE MEASURES

General and Disposal: Use proper protective equipment to minimize personal exposure (see Section 8). Take all necessary action to prevent and to remedy the effects of the spill. Ensure that the disposal is in compliance with federal or local disposal regulations (see Section 13). Notify the appropriate authorities immediately (see Section 15 for any applicable Reportable Quantity (RQ)). Report to authorities if water enters watercourse or sewer.

Land Spill or Leak:

Liquid spills on the floor or other impervious surfaces should be contained or diked and then absorbed with sawdust, sand, bentonite, or other absorbent clay. Collect contaminated absorbent, and place it in a metal drum. Thoroughly scrub the floor or other impervious surface with a strong industrial-type detergent and rinse with water.

Liquid spills that soak into the ground should be dug up and placed in metal drums. When a large spill or leakage is found, wear protective clothing and respirator to avoid exposure.

Avoid contaminated absorbents or water flow into ponds, rivers, and lakes, due to the danger of acute toxicity to aquatic organisms.

7. HANDLING AND STORAGE

Handling Precautions:

- Do not contaminate water, food, or feed by storage or disposal.
- Open container with care.
- Do not reuse or refill this container.
- Completely empty bag into application equipment, then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration.
- Do not contaminate water by cleaning of equipment or disposal of waste.
- Avoid ingestion and avoid contact with skin, eyes, or clothing.
- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

Storage Precautions:

- Store in original container, and keep tightly closed when not in use.
- Store in a cool, dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

(Local exhaust): Ventilation may be necessary under certain confined conditions. If practical, use ventilation at the sources of air contamination. Control airborne contaminants below the exposure guidelines (see below for any applicable OSHA / ACGIH exposure limits).

Personal Protective Equipment (PPE):

Skin Protection: Wear long-sleeved shirt, long pants, shoes, socks, chemical resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or Viton®

Eye/Face Protection: When there is significant potential for eye contact, wear chemical safety goggles.

Respiratory Protection: Ensure good ventilation. Avoid breathing mist. If ventilation is inadequate, use approved respiratory protection equipment when airborne exposure limits are exceeded.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|---|
| Appearance | White viscous suspension liquid |
| Odor | Faint characteristic odor |
| Odor Threshold | No data available |
| pH | 6.2 (1% w/w) |
| Melting point/freezing point | Flutolanil TGAI: 101.2-103.2°C Flutriafol TGAI: 130°C |
| Initial boiling point and boiling range | Flutolanil TGAI: Not determined Flutriafol TGAI: Decomposes |
| Flash point | No data available |
| Evaporation rate | No data available |
| Flammability (solid, gas) | Not applicable |
| Upper/lower flammability or explosive limits | Not applicable |
| Vapor pressure | Flutolanil TGAI: 6.54×10^{-6} Pa at 25°C Flutriafol TGAI: 7.1×10^{-9} Pa at 20°C |
| Vapor density | No data available |

| | |
|--|---|
| Relative density | 1.1081 g/mL at 20°C |
| Solubility(ies) | Flutolanil TGAI: 6.6 mg/mL (water) Flutriafol TGAI: 130 mg/L at 20°C (water) |
| Partition coefficient (n-octanol/water) | Log Pow = 3.77 @ 21°C (Flutolanil TGAI) Log Pow = 2.29 (Flutriafol TGAI) |
| Auto-ignition temperature | Not applicable |
| Decomposition temperature | No data available |
| Kinematic Viscosity | 340.44 mm ² /s (cSt) at 20°C 158.84 mm ² /s (cSt) @ 40°C |

TGAI = Technical Grade Active Ingredient

10. STABILITY AND REACTIVITY

| | |
|---|--|
| Reactivity | None known |
| Chemical stability | Stable for at least 1 year under normal storage conditions |
| Possibility of hazardous reactions | None known |
| Conditions to avoid | Exposure to elevated temperatures can cause product to decompose |
| Incompatible materials | None known |
| Hazardous decomposition products | None |

11. TOXICOLOGICAL INFORMATION

The following data were developed using Umbra Fungicide: Acute

Studies:

| | |
|--|--|
| Oral LD₅₀ (rat): | 5,000 mg/kg (male and female rats) |
| Dermal LD₅₀ (rat): | 5,000 mg/kg (male and female rats) |
| Inhalation LC₅₀ (rat): | > 2.17 mg/L (male and female rats) (4 hrs) |
| Eye irritation (rabbit): | Minimally irritating |
| Skin irritation (rabbit): | Slightly irritating |
| Skin sensitization (guinea pig): | Not a contact sensitizer |

The following data were developed using flutolanil technical:

Chronic Effects:

The primary effects of flutolanil are increases in liver weight combined with decreases in body weight. Flutolanil is not neurotoxic, carcinogenic or mutagenic and is not a developmental or reproductive toxicant.

Also noted in the subchronic studies at high doses were slight increases in absolute and relative thyroid/parathyroid weights in rats and dogs. Lower body weight gains were noted. There were no other signs of treatment related toxicity.

Cancer Effects:

Not likely to be carcinogenic to humans.

Teratogenicity (Birth Defects):

No evidence of treatment related developmental toxicity tested at limit dose of 1000 mg/kg/day.

Reproductive Effects:

There is no evidence of reproductive toxicity.

Neurotoxicity:

Evaluation of the available data for flutolanil did not reveal any clinical signs, clinical chemistry changes, and/or histopathology to indicate that it is neurotoxic.

Immunotoxicity:

Evaluation of the available data for flutolanil did not reveal any hematological effects, or effects on the thymus or spleen, indicative of potential immunotoxicity.

Mutagenicity (Genetic Effects):

The weight of evidence indicates that flutolanil is neither mutagenic nor genotoxic.

The following data were developed using Flutriafol technical:

Repeated Dose Toxicity:

Repeated exposure to flutriafol may cause liver damage. The LOEL for this effect has been found to be approx. 150 mg flutriafol/kg bw/day in a 90-day feeding study in rats.

Chronic Toxicity and Carcinogenicity:

No carcinogenic effects have been observed in rats and mice. Flutriafol is not classified as a carcinogen by IARC, OSHA or NTP.

Developmental Toxicity:

No data available.

Reproductive Toxicity:

No effects on fertility are found (method OECD 416) and no teratogenic (birth defects causing) effects are found for flutriafol (method OECD 414) at maternal non-toxic doses (10 mg flutriafol/kg bw/day).

Genetic Toxicology:

Dominant lethal test was negative (method OECD 478).

12. ECOLOGICAL INFORMATION

Environmental Hazards:

This product is toxic to fish, shrimp, and aquatic invertebrates. For terrestrial uses, except when applying over rice crops, do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

Drift and runoff may be hazardous to aquatic organisms in water adjacent to treated areas.

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water.

This product is classified as having a high potential for reaching surface water via runoff for several months or more after application. A level, well-maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs will reduce the potential loading of flutolanil from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours.

Environmental Precautions:

Do not discharge effluent containing this product directly into lakes, streams, ponds, estuaries, oceans or public waters unless this product is specifically identified and addressed in a NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your state water board or regional office of the Environmental Protection Agency.

13. DISPOSAL CONSIDERATIONS

General Disposal:

Wastes resulting from the use of this product must be disposed of on site or at an approved waste disposal facility.

Any disposal practice must be in compliance with all federal, state/provincial, and local laws and regulations. State (provincial) and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Chemical additions, processing, storage or otherwise altering this material may make the waste disposal information presented in this MSDS incomplete, inaccurate, or otherwise inappropriate. Waste characterization and disposal compliance are the responsibility solely of the party generating the waste or deciding to discard or dispose of the material.

Refer to appropriate federal (RCRA: 40 CFR.261), state/provincial, or local requirements for proper classification information. For regulatory information on the ingredient components, see Section 15.

Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Pesticide wastes are toxic. Improper disposal of excess pesticide, pesticide spray, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Container Disposal:

Nonrefillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in a sanitary landfill or by other procedures approved by state and local authorities.

14. TRANSPORT INFORMATION

| | |
|--------------|---|
| DOT: | Not regulated |
| IATA: | UN 3082, Environmentally hazardous substance, liquid, n.o.s. (flutolanil, Flutriafol), Class 9, PG III |
| IMDG: | UN 3082, Environmentally hazardous substance, liquid, n.o.s. (flutolanil, Flutriafol), Class 9, PG III, MARINE POLLUTANT, EmS: F-A, S-F |

Umbra Fungicide is not regulated for transport unless shipped by water or air.

15. REGULATORY INFORMATION

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation

U.S. Federal Regulatory Information:

EPA Registration Number: 71711-48

TSCA Inventory: Registered pesticide; exempt from TSCA

SARA Title III Notification and Information:

Section 302 (EHS) Ingredients: None

Section 304 (EHS) or CERCLA Ingredients (RQ): None

Section 313 Ingredients: None

U.S. State Regulatory Information: None

U.S. State Right-to-Know (RTK) Ingredients: None

California Proposition 65 List:

- Not applicable

16. OTHER INFORMATION

HMIS® Hazard Rating:

Health: 1

Flammability: 1

Physical Hazard: 0

*indicates both acute and chronic health hazard

NFPA Hazard Rating:

Health: 2
Flammability: 1
Instability: 0
Specific Hazard: None

Prepared by: Regulatory Affairs
Date: 04/09/2018
Reason for editing: New SDS.

Disclaimer of Expressed and Implied Warranties:

This information is provided in good faith but without express or implied warranty. Buyer assumes all responsibility for safety and use not in accordance with FIFRA label instructions.