

## Nichino America, Inc. ARTISAN® Fungicide

### 1. IDENTIFICATION

**Product Name:** ARTISAN Fungicide  
**General Use:** Fungicide  
**Product Description:** Systemic fungicide for use on soil-borne and foliar diseases  
**EPA Reg. No.:** 71711-17

**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.  
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Wilmington, Delaware 19808, USA  
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**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

**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	32.0%
Propiconazole CAS name: 1H-1,2,4-Triazole, 1-[[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl]methyl]-	60207-90-1	6.0%
Propylene glycol	57-55-6	5 – 10%
Sodium hydroxide	1310-73-2	0.01 – 0.1%
*Other ingredients		51.90 - 56.99%

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

**4. FIRST AID MEASURES**

**Eye Contact**

Causes moderate 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 eye. 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**

<b>Suitable (and unsuitable) extinguishing media</b>	Foam, dry chemical powder, carbon dioxide, or water (spray)
<b>Unsuitable extinguishing media</b>	No information available
<b>Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products)</b>	Combustion or thermal decomposition may evolve toxic vapors (CO <sub>2</sub> , CO, NO <sub>x</sub> , HCl)
<b>Special protective equipment and precautions for fire-fighters</b>	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.

**Exposure Limits:**

<b><u>Ingredient:</u></b>	<b><u>ACGIH TLV</u></b>	<b><u>OSHA PEL</u></b>
Propylene glycol (CAS No. 57-55-6)	10 mg/m <sup>3</sup>	--
Sodium Hydroxide (CAS No. 1310-73-2)	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup> (8-hour TWA)

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Light gray, opaque liquid
<b>Odor</b>	Paint and musty
<b>Odor Threshold</b>	No data available
<b>pH</b>	6.46
<b>Melting point/freezing point</b>	Flutolanil TGAI: 101.2-103.2°C Propiconazole TGAI: No data available
<b>Initial boiling point and boiling range</b>	Flutolanil TGAI: 325°C Propiconazole TGAI: 193 °C
<b>Flash point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper/lower flammability or explosive limits</b>	Not applicable
<b>Vapor pressure</b>	Flutolanil TGAI: 4.1 x 10 <sup>-7</sup> Pa at 20°C Propiconazole TGAI: No data available
<b>Vapor density</b>	No data available
<b>Relative density</b>	1.147
<b>Solubility(ies)</b>	Flutolanil TGAI: 8.01 µg/mL (water) Propiconazole TGAI: 0.155 g/L (water)
<b>Partition coefficient (n-octanol/water)</b>	Log Pow = 3.17 @ 21°C (Flutolanil TGAI) Log Pow = 3.72 (Propiconazole TGAI)
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No data available
<b>Viscosity</b>	86.546 mm <sup>2</sup> /s (cSt) at 20°C 48.160 mm <sup>2</sup> /s (cSt) @ 40°C

TGAI = Technical Grade Active Ingredient

**10. STABILITY AND REACTIVITY**

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

**11. TOXICOLOGICAL INFORMATION**

The following data were developed using ARTISAN Fungicide:

**Acute Studies:**

<b>Oral LD<sub>50</sub> (rat):</b>	> 5,000 mg/kg (male and female rats)
<b>Dermal LD<sub>50</sub> (rat):</b>	> 5,000 mg/kg (male and female rats)
<b>Inhalation LC<sub>50</sub> (rat):</b>	> 2.04 mg/L (male and female rats) (4 hrs)
<b>Eye irritation (rabbit):</b>	Mildly irritating
<b>Skin irritation (rabbit):</b>	Slightly irritating
<b>Skin sensitization (guinea pig):</b>	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 propiconazole technical:**

**Repeated Dose Toxicity:**

Repeated exposure to propiconazole technical is not expected to cause significant adverse effects.

**Chronic Toxicity and Carcinogenicity:**

No treatment-related increases in tumor incidence were reported in male or female rats or female mice. An increased incidence of liver tumors was found in male mice. The EPA has classified propiconazole as a Group C (possible human carcinogen). The relevance of this finding to humans is unknown. Propiconazole is not classified as a carcinogen by IARC, OSHA or NTP.

**Developmental Toxicity:**

There is no evidence of developmental toxicity.

**Reproductive Toxicity:**

There is no evidence of reproductive toxicity.

**Genetic Toxicology:**

Propiconazole technical is neither mutagenic nor genotoxic.

## 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**

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

**ARTISAN 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:** 71711-17

**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:**

Name	CAS #
Propiconazole	60207-90-1

**U.S. State Regulatory Information:**

**U.S. State Right-to-Know (RTK) Ingredients:**

- Propiconazole – CAS No. 60207-90-1
- Propylene glycol – CAS No. 57-55-6

**California Proposition 65 List:**

- None

**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  
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**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.