NICHINO AMERICA, INC.

MATERIAL SAFETY DATA SHEET

VENUE™ herbicide

A Nonselective Contact Herbicide for Tree, Nut, and Vine Crops

27 January 2006
NICHINO AMERICA, INC.

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Venue™ Herbicide

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Venue
General Use: Herbicide
Product Description: Soluble concentrate

Manufacturer
Main Headquarter: Nihon Nohyaku Co., Ltd., 1-2-5,
Nihonbashi, Chuo-ku
Tokyo 103, JAPAN
Non-emergency information:
Phone: 81-3-3278-0461
Facsimile: 81-3-3281-2443
Emergency information:
Phone: 81-3-3281-1887

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

Emergency and Health and Safety Inquiries: 1-800-348-5832 (24-hours). In case of fire or spills, information may be obtained by calling (800) 424-9300. In case of international shipments, call (703) 527-3887.

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients:	Active Ingredient: Pyraflufen ethyl	2.0%
	Other Ingredients:	9.5%
	Water:	88.5%

Chemical Name of Active Ingredient (IUPAC): Pyraflufen ethyl (ethyl 2-chloro-5-(4-chloro-5-difluoromethoxy-1-methyl-1*H*-pyrazol-3-yl) 4 fluorophenoxyacetate

CAS No.: 129630-19-9

3. HAZARDS IDENTIFICATION

**********EMERGENCY OVERVIEW**********

CAUTION

- **Toxic to fish and aquatic invertebrates**

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Potential Health Effects:

Primary route(s) of entry:	Skin contact
Eyes:	Causes slight eye irritation.
Skin:	Can cause mild skin irritation. Harmful if absorbed through the skin. Does not cause skin sensitization in animal studies.
Ingestion:	No specific health effects are associated with ingestion of a small amount incidental to routine handling and use.
Inhalation:	No specific health effects associated with inhalation.
Chronic (cancer information):	In accordance with the EPA Draft Guidelines for Carcinogen Risk Assessment (July, 1999), the EPA classified pyraflufen-ethy as “likely to be carcinogenic to humans” by the oral route.

4. FIRST AID MEASURES

If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

If in eyes: 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.

If on skin 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.

If swallowed: Immediately call a 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.

5. FIRE FIGHTING MEASURES

Flash Point: No flash observed at temperatures up to 110 ^{o}C

Fire and Explosion Hazards: No known explosion characteristics. Will burn to give off toxic oxides of carbon and nitrogen.

Extinguishing Media: Water, foam, carbon dioxide, or dry powder

Fire Fighting Instructions: Wear positive pressure self-contained breathing apparatus. Spray containers with water to keep cool. Avoid runoff from extinguishing media such as water, foam, and dry chemicals into ponds, rivers, and lakes due to danger of acute toxicity to aquatic organisms.

6. ACCIDENTAL RELEASE MEASURES

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.

Notify the appropriate authorities immediately (see Section 15 for any applicable Reportable Quantity. Also report ot authorities if contamination of waterways has occurred.

7. HANDLING AND STORAGE

Handling Precautions:

- Open container with care.
- Use adequate ventilation.
- Avoid handling near an open flame or heat source or ignition source.
- Do not contaminate water by cleaning of equipment or disposal of waste.
- Avoid contact with skin, eyes, or clothing.
- Do not eat, drink, smoke, or chew gum or tobacco while handling this product and until hands and face are thoroughly washed with soap and water.
- Do not use the toilet before thoroughly washing hands.
- Remove contaminated clothing immediately and wash thoroughly before reuse.

Storage Precautions:

- Keep container closed. Store in original container.
- Keep container at room temperature or store in a cool place.
- Avoid storage in direct sunlight, excessive heat or cold.

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.

Eye/Face Protection:

Safety glasses

Skin Protection:

Chemical resistant gloves

Respiratory Protection:

Ensure good ventilation. If not adequate, use a suitable respirator.

Other/General Protection:

The following personal protective equipment (PPE) must be worn when using product or upon early entry into treated areas during the Restricted Entry Interval (REI):

- Coveralls
- Chemical resistant gloves
- Shoes plus socks

Note: Refer to the product label for applicable details concerning the “User Safety Recommendations” and the use of PPE under the EPA Worker Protection Standards (40 CFR Part 170).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White, milky liquid
Odor: Slight nonspecific odor
Basic Physical Properties:

Physical State:	Liquid
Boiling Point:	Not available
Melting Point:	Not applicable
Vapor Pressure:	Not available
Density:	1.023
Viscosity:	non-Newtonian
pH:	6.84 @ 24^{o}C (1% aqueous dilution)

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions
Flash Point: No flash observed at temperatures up to 110^{o}C
Auto Ignition: No ignition below 400°C
Hazardous Polymerization: None

11. TOXICOLOGICAL INFORMATION

The following data were developed using Venue:
Acute Studies:

Oral	Rat LD_{50}	Male: >5,000 mg/kg Female: >5,000 mg/kg
Dermal	Rat LD_{50}	> 2,000 mg/kg
Inhalation	Rat LD_{50}	> 5.53mg/L
Eye Irritation	Rabbit	Slightly irritating
Skin Irritation	Rabbit	Slightly irritating
Skin Sensitization	Guinea Pig	Non-sensitizing

The following data were developed using ET-751 technical (pyraflufen-ethyl)

Subchronic and Chronic Effects:

A 90-day rat feeding study was conducted at dose levels up to 15,000 ppm pyraflufen-ethyl showing liver and kidney effects at the high dose (15,000 ppm, ~1500mg/kg). The NOEL in this study was considered to be 1,000 ppm. In a 90-day oral toxicity study in dogs, pyraflufen-ethyl was administered at dose levels up to 1,000 mg/kg/day. No effects in body weight or organ weight, clinical chemistry, hematology, histopathology, or gross pathology were observed.

In long-term studies, no effects were observed in dogs exposed for one-year to a maximum dose of 1000 mg/kg. In a two-year rat chronic study, liver and kidney effects were observed at 2000 ppm. The NOEL was 400 ppm (~20 mg/kg).

Cancer Effects:

Pyraflufen-ethyl was tested in lifetime studies in rats and mice. There was no evidence of carcinogenicity in the rat at doses as high as 10,000 ppm (~470 mg/kg). In the mouse study, the incidence of hepatocellular adenoma was increased in animals receiving 5,000 ppm, a dose level considered to be in excess of a MTD (maximum tolerated dose). This benign tumor was likely induced by the adaptive response to the hepatocellular degeneration and not carcinogenic response to pyraflufen-ethyl.

Teratogenicity (Birth Defects):

Pyraflufen-ethyl was not a developmental toxin in rats at dose levels of 1000 mg/kg or rabbits at doses of 60 mg/kg.

Reproductive Effects:

Pyraflufen ethyl is not a reproductive toxin. In a multigeneration rat reproduction study conducted at dietary concentrations up to 10,000 ppm, pyraflufen-ethyl had no effect on reproductive parameters, including mating indices, fertility index, gestation index, duration of gestation, numbers of implantation sites, numbers and morphology of epididymal sperm, and estrous cycle at any dose level. The NOEL was 1,000 ppm, based on decreased body weight.

Neurotoxicity:

There was no neurotoxicity seen in acute, subchronic, chronic, reproduction, and teratology studies conducted with pyraflufen-ethyl after exposure in the diet.

Mutagenicity (Genetic Effects):

Pyraflufen-ethyl technical was not mutagenic in any of the genotoxicity studies conducted.

12. ECOLOGICAL INFORMATION

Environmental Precautions:

This product is toxic to fish and aquatic invertebrates. This product may contaminate water through drift of spray in wind or via runoff events. Use care when applying in areas adjacent to any body of water. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwater or rinsate. Do not apply when weather conditions favor drift from treated areas. Do not apply if rainfall is expected within one hour.

13. DISPOSAL CONSIDERATION

General Disposal Guidance: 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: **Do not reuse empty container.** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

RCRA: There are no hazardous waste ingredients in this product.

14. TRANSPORT INFORMATION

DOT: Not regulated
IATA: Not regulated

15. REGULATORY INFORMATION

U.S. Federal Regulatory Information:

EPA Registration Number: 71711-25
TSCA Inventory: Registered pesticide; exempt from TSCA

Regulatory Controls:

This product is registered under the Federal Insecticide, Fungicide, and Rodenticide Act (7 U.S.C.). It is a violation of Federal Law to use this product in a manner that is inconsistent with its' labeling. Read and follow all label directions.

SARA Title III Notification and Information: No components of the products are listed.

U.S. State Regulatory Information:

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

Canadian Regulatory Information:

CPC Number: None
The MSDS contains all CPR required hazard-related information.

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	2 Moderate
	Fire:	1 Moderate
	Reactivity:	0 Minimal
NFPA Hazard Rating:	Health:	2 Moderate
	Fire:	1 Moderate
	Reactivity:	0 Minimal
	Spec. Haz.:	None

Prepared By: Dept. of 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 label instructions.