

Nichino America, Inc.
GATTEN® FUNGICIDE
Safety Data Sheet

1. IDENTIFICATION

Product Name: GATTEN® Fungicide
General Use: Fungicide
Product Description: Emulsifiable Concentrate
EPA Reg. No.: 11581-6-71711

Manufacturer OAT Agrio Co., Ltd. 1-3-1 Kanda Ogawa-machi,
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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

Classification of the chemical in accordance with paragraph (d) of 29 C.F.R. §1910.1200

Classification:

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Skin Sensitizer	Category 1
Reproductive Toxicity	Category 1B
Specific Target Organ Toxicity Single Exposure (respiratory irritation)	Category 3

Signal Word: DANGER



Hazard Statements:

Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
May damage the unborn child
May cause respiratory irritation

Precautionary Statements:

Prevention:

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing mist/vapor/spray.
Wash thoroughly after handling.
Wear protective gloves/eye protection/face protection.
Contaminated work clothing must not be allowed out of the workplace.
Use only outdoors or in a well-ventilated area.

Response:

If on skin: Wash with plenty of water.
Specific treatment (see precautionary language on label).
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
If exposed or concerned: Get medical advice/attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center/doctor if you feel unwell.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

Disposal:

Dispose of contents/container in accordance with details
in Section 13 of this Safety Data Sheet.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Substance Name	Chemical Name	CAS No.	Weight (%)
Flutianil	(Z)-2-[2-fluoro-5-(trifluoro methyl) phenylthio]-2-[3-(2-methoxyphenyl)-1,3-thiazolidin-2-ylidene] acetonitrile	958647-10-4	4.5 - 4.9 (purity 99.4%)
NMP	N-methyl-2-pyrrolidone	872.50-4	38.8 - 41.2
Newcol 2609	Polyoxyalkylene polystyryl phenyl ether	99734-09-5	12.3 - 13.7

4. FIRST AID MEASURES

Description of First Aid Measures

General Notes: Treat exposure symptomatically. Call a poison control center or doctor for treatment advice. Have the product container or label with you when calling a poison control center or doctor or when going for treatment.

Following Inhalation: Move person to fresh air. If person is not breathing, call 911 for an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

Following Skin Contact: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes.

Following Ingestion: 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 by a poison control center or doctor. Do not give anything to an unconscious person.

Following Eye Contact: 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.

Most Important Symptoms and Effects, Both Acute and Delayed:
Not known. Exposure should be treated symptomatically.

Indication of Any Immediate Medical Attention and Special Treatment Needed:
Not known. Exposure should be treated symptomatically.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing media appropriate to the situation of the fire and its surrounding area. Foam, dry powder, carbon dioxide and water are all suitable extinguishing media.
Special Hazards Arising From the Substance	On burning, this material may generate toxic gases such as oxides of carbon, nitrogen oxides and flourine.
Advice for Firefighters	Wear self-contained breathing apparatus and a chemical protective suit. Do not allow extinguishing water to reach ground water or sewage system. Fight fire from a distance and stay upwind.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures: Restrict access to the area as appropriate until clean up operations are complete. Use the personal protective equipment recommended in Section 8 (Exposure Controls)

6.2 Environmental Precautions: Prevent material from entering drains or waterways. If drains, streams, soil or sewers become contaminated then notify local authority. Refer to Section 13 for guidance.

6.3 Methods and Materials for Containment and Cleaning Up: Evacuate area. Eliminate all sources of ignition and ventilate area. For small spills, wipe away the spill or vacuum up with cleaner.
For large spills, moisten material with water and avoid raising dust, Place it in covered container as much as you can. Wipe or vacuum up residual trace. Collected material should be disposed.

7. HANDLING AND STORAGE

7.1 Precautions for Safe Handling:

Ensure that the area has adequate ventilation. Standard occupational safety procedures should be followed.

Use of the personal protective equipment referred to in Section 8 is required. Avoid breathing dust/mist/vapor/spray. Avoid contact with eyes, on skin or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash the contaminated clothing before reuse and separately from others.

7.2 Conditions for Safe Storage Including and Incompatibilities:

Store in the closed original container in a dry, cool and well-ventilated place.

Keep away from heat.

Do not store for prolonged periods in direct sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters:

There are no established occupational exposure limits for the components of this product.

Following an operator exposure assessments the derived Acceptable Operator Exposure Level (AOEL) for Flutianil was determined to be 0.64 mg/kg body weight/day.

8.2 Exposure Controls

Appropriate Engineering Controls:

Ensure that there is suitable ventilation. Mechanical and or local exhaust are necessary when Gatten Fungicide is used indoors.

Personal Protection:

Eye/Face Protection: Safety Goggles

Skin Protection: Chemical-resistant gloves. Wash the outside of gloves before removing. Wear long-sleeved shirt and long pants, socks and shoes. Remove and wash contaminated clothing before reuse.

Respiratory Protection: Use an appropriate respirator which is approved and made according to a standard approved by the relevant national body for health and safety.

Environmental Exposure Controls:

Use the product in accordance with label instructions. Avoid unnecessary release to drains and waterways.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Yellow homogenous liquid
Odor	Weak sweet fruity odor
Odor Threshold	Not Reported
pH	pH of a 1% aqueous dilution: 4.87
Melting point/Freezing point	Not reported
Boiling Point	Not reported
Flash point	91±2 °C
Evaporation rate	Not applicable
Flammability	Not flammable
Upper lower flammability/ explosive limits	Not applicable
Vapor pressure	Not reported
Vapor density	Not applicable
Relative density	1.08kg/m ³ at 20 °C±0.5°C
Solubility in water	Emulsifiable in water
Solubility in organic solvents	Not determined
Partition coefficient (n-octanol/ water)	Not determined
Auto-ignition temperature	286±5 °C
Decomposition temperature	Not determined
Viscosity	5.45 mm ² /s at 20°C±0.5°C
Explosive properties	No explosive properties
Oxidizing properties	No oxidizing properties
Surface tension	40.1mN/m at 20 °C±0.5°C

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical Stability	Stable under normal conditions
Possibility of hazardous reactions	No data available. There are no conditions known that could lead to hazardous reactions of Flutianil
Conditions to avoid	No conditions known
Incompatible materials	Strong oxidizers, cationic surfactant, acids, halogens
Hazardous decomposition products	If on fire, a harmful mist containing toxic carbon monoxide, nitrogen oxides and fluorine may be generated.

11. TOXICOLOGICAL INFORMATION

Likely routes of exposure: Eye, Oral Dermal, Inhalation

Symptoms related to the physical, chemical and toxicological characteristics include: See Section 4 for details

Delayed and immediate effects: Causes moderate eye irritation. Harmful if swallowed, absorbed through skin or if inhaled.

Toxicological Endpoint Data:

Toxicological Endpoint	Value
Acute Oral Toxicity	LD50 > 5000 mg/kg (Flutianil)
Acute Dermal Toxicity	LD50 > 5000 mg/kg (Flutianil)
Acute Inhalation Toxicity	LC50 > 5.84 mg/L (Flutianil)
Skin irritation:	Irritant
Eye irritation:	Irritant
Skin sensitization:	Sensitizing
Repeat Dose Toxicity (Short Term):	Not reported
Germ Cell Mutagenicity	Negative
Carcinogenicity	None of the components of this product are listed in the National Toxicology Program (NTP) Report on Carcinogens or listed as a carcinogen in the International Agency for Research on Cancer (IARC) Monograph or by OSHA.
Reproductive Toxicity	May damage the unborn child (NMP)
STOT Single Exposure	May cause respiratory irritation (NMP)
STOT Repeated Exposure	No effects observed
Aspiration Hazard	Not classified

N-Methyl-2-pyrrolidone

Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

12. ECOLOGICAL INFORMATION

Species	Timescale	Endpoint	Value
<i>Oncorhynchus Mykiss</i>	96 hour	LD50	1.7 mg/L
<i>Cyprinus carpio (carp)</i>	96 hour	LD50	5.5 mg/L
<i>Daphnia magna</i>	48 hour	LD50	1.1 mg/L
<i>Pseudokirchneriella Subcapitata</i>	96 hour	EC50	2.6 mg/L
<i>Apis mellifera</i>	48 hour	LD50 (g a.s./bee) oral	>21.7
<i>Apis mellifera</i>	48 hour	LD50 (g a.s./bee) oral	>50.0
<i>A. rhopalosiphi</i>	48 hour	LR50	31.7g flutianil/ha
<i>T. pyri</i>	7 day	LR50	583.74g flutianil/ha
<i>A. rhopalosiphi</i>	14 day	NOER reproduction	480g flutianil/ha
<i>T. pyri</i>	7 day	NOER reproduction	480g flutianil/ha
<i>C. carnea</i>	Extended study	NOER reproduction	480g flutianil/ha
<i>Eisenia fetida</i>	14 day	EC50	42mg flutianil/kg soil
<i>Eisenia fetida</i>	Extended study	NOEC reproduction	3000mg flutianil/kg soil
<i>Folsomia candida</i>	14 day	EC50 reproduction	12mg flutianil/kg soil

Persistence and degradability:

Flutianil DT₅₀ Soil: 75.9 Days

Bioaccumulative Potential:

Flutianil Bioconcentration factor (BCF) 340-380

Mobility in Soil:

Flutianil is classified as 'Non-mobile' (Hollis) or 'Immobile' (McCall) Freundlich K_{OC} coefficients were in the range of 20631 to 79448 mL/g and Freundlich desorption coefficients (K_{OCdes}) were in the range 16793 to 52573 mL/g

13. DISPOSAL CONSIDERATIONS

13.1 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 presenting in this SDS 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.

13.2 Container Disposal:

Non-refillable container. Do not reuse or refill this container. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining content 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.

Pressure rinse as follows: empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or a mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

Then offer for reconditioning if appropriate 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.

14. TRANSPORT INFORMATION

DOT: Non-bulk (≤ 119 gallons or 450L): Not regulated
Bulk (>119 gallons or 450L): NA 1993, Combustible liquid, n.o.s.
(petroleum distillate mixture), Comb liq, PG III

IATA: UN 3082: Environmentally hazardous substance, liquid, n.o.s.
(Flutianil), Class 9, PG III

IMDG: UN 3082: Environmentally hazardous substance, liquid, n.o.s.
(Flutianil), Class 9, PG III, Marine Pollutant, EmS: F-A; S-F.

Gatten Fungicide is not regulated for transport under DOT in non-bulk containers

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:

WARNING

Causes substantial but temporary eye injury.

U.S. Federal Regulatory Information

EPA Registration Number: 11581-6-71711
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 Ingredient: N-methyl-2-pyrrolidone CAS #872-50-4

U.S. State Regulatory Information:

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

- N-methyl-2-pyrrolidone

California Proposition 65 List:

- N-methyl-2-pyrrolidone (CAS 872-50-4): This product contains a chemical known in the state of California to cause developmental effects.

16. OTHER INFORMATION

Prepared by: Regulatory Affairs

Date: 02/23/2018

Reason for Editing: **This is the first version of the SDS for Gatten written in accordance with 29 C.F.R. §1910.1200**

Abbreviations and Acronyms:

CAS: Chemical Abstracts Service
EC: Emulsifiable Concentrate
IUPAC: International Union of Pure and Applied Chemistry

Key Literature References and Sources for Data:

Relevant study data owned by OAT Agrico Co., Ltd. is reported in this Safety Data Sheet.

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.