1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the preparation

Product name: **Flubendiamide 20WDG (Synonym: NNI-0001 20WDG)**

1.2 Use of the preparation

Insecticide for agriculture

1.3 Company/undertaking identification

Manufacturer

Nihon Nohyaku Co., Ltd.,
Eitaro Bldg., 2-5, Nihonbashi 1-Chome, Chuo-Ku, Tokyo, JAPAN
(ENVIRONMENTAL SAFETY DEPT / Phone: 81-3-3274-1887)

Emergency telephone number

OVERSEAS DIVISION, Nihon Nohyaku Co., Ltd.,
Eitaro Bldg., 2-5, Nihonbashi 1-Chome, Chuo-Ku, Tokyo, JAPAN
Phone: 81-3-3274-3420 Facsimile: 81-3-3281-2443

UK Connection: Nichino Europe Co. Ltd.
5 Pioneer Court Vision Park Cambridge CB24 9PT UK
Phone: +44-1223-200212 Facsimile: +44-1223-233119

USA Connection: Nichino America, Inc.
Linden Park, Suite 501 4550 New Linden Hill Road, Wilmington,
Delaware 19808, USA

2. COMPOSITION / INFORMATION ON INGREDIENTS

Substance / Mixture: Mixture

Ingredient and composition

Active ingredient:

3-iodo-N'-(2-mesyl-1,1-dimethylethyl)-N-{4-[1,2,2,2-tetrafluoro-1-(trifluoro methyl)ethyl]-o-tolyl}phthalamide (IUPACK name)
Common name: flubendiamide

Components

Flubendiamide 20.0% (CAS No.272451-65-7)
Inert ingredients* 80.0%
*Surface active agent, clay

3. HAZARD IDENTIFICATION

Classification (UN classification): Class 9, Environmentally hazardous substance
Physical and chemical hazards: Not applicable
Adverse human health effects: Risk of slight eye irritation
Environmental effect: Highly toxic to aquatic organisms.

4. FIRST-AID MEASURES

Eye contact: Flush eyes with plenty of water at least 15 minutes. Get medical attention immediately.
Skin contact: Remove contaminated clothing. Wash with large quantities of water and soap. If irritation persists, get medical attention.

Inhalation: Remove individual to fresh air. Get medical attention if ill effect occur.

Ingestion: If swallowed, rinse mouth with water, and give one or two glasses of water to drink. Keep patient at rest and get medical attention. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

Fire-fighting procedure: Firefighters and others that may be exposed should wear full protective clothing and self-breathing apparatus. Avoid extinguishing media such as water, foam, and dry chemicals flow into pond, river and lake.

Unusual fire of explosion hazard: None

Hazardous combustion products: CO, SOx, NOx etc.

Extinguishing media: Water spray, Foam, Dry chemical powder, Carbon dioxide

6. ACCIDENTAL RELEASE MEASURES

Evacuate non-essential personnel. Wear proper equipment. Carefully sweep up and place in a container for waste disposal. Avoid raising dust. Wash the spillage area with water. Washings should not be poured into drains or waterway. Prevent spills from entering sewers, watercourse or low areas.

7. HANDLING AND STORAGE

Handling: Use with adequate ventilation. Avoid contact with skin and eyes. Do not breath dust or vapor. Wash face and hands thoroughly with soap and water after handling.


8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Exposure limits values

Flubendiamide: Not established.

8.2 Exposure control

Engineering controls: If practical, use with adequate ventilation in the working area. Make available in the work area emergency shower and eye wash.

Personal protective equipment:

Respiratory protection: Wear approved respiratory protection equipment.

Eye protection: Wear chemical safety goggles.

Skin protection: Wear suitable protective clothing and gloves to prevent skin contact. Wash contaminated skin promptly.
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Brown fine granule</td>
</tr>
<tr>
<td>Bulk density</td>
<td>0.65-0.78</td>
</tr>
<tr>
<td>pH:</td>
<td>5.0-8.0/20°C (1% water suspension)</td>
</tr>
<tr>
<td>Flammability (solid):</td>
<td>Not flammable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

- **Chemical stability:** This product is stable under normal warehouse conditions.
- **Incompatibility with other materials:** Not known
- **Hazardous decomposition products:** Combustion or thermal decomposition will evolve toxic and irritant vapors (CO, NOx, SOx etc.).
- **Hazardous polymerization:** Not known

11. TOXICOLOGICAL INFORMATION

- **Acute toxicity**
  - Oral: Rat LD50 (mg/kg) female >2,000
  - Dermal: Rat LD50 (mg/kg) male, female >2,000
  - Eye contact: Rabbit Mildly irritating
  - Skin contact: Rabbit No irritating
  - Sensitization: Guinea pig Negative

12. ECOLOGICAL INFORMATION

- **Aquatic organism toxicity**
  - Carp LC50 (48h, 96h) 677ppm
  - Daphnia EC50 (48h) 0.00431ppm
  - Algae* EbC50 (72h) >1000ppm * *Selenastrum capricornutum

13. DISPOSAL CONSIDERATION

Excess pesticide and rinsate should be disposed of according to label instruction and / or local regulation. Do not dump into sewers, on the ground or into any body of water. Dispose used container according to the local regulation. Repealing liquid containing flubendiamide should be avoided to flow into river, pond and lake.

14. TRANSPORT INFORMATION

This product is not a hazardous material. Follow the precaution indicated in the HANDLING AND STORAGE section. Confirm that the material does not leak and treat carefully not to break the packing. Follow all regulation in your country.

- **UN Classification:** Class 9, UN No.3077 (Environmentally hazardous substance, solid, N.O.S)
- **Packaging group:** III
- **IMDG Code:** Marine pollutant

15. REGULATORY INFORMATION

Users should ensure that they comply with any relevant local, state or national legislation.
16. OTHER INFORMATION
The information herein is given in good faith, but not warrantee. The information is intended to provide general guidance as to health and safety based upon our knowledge of the handling, storage and use of product. It is not applicable to unusual or non-standard uses of product, nor where instructions or recommendations are not followed.