

## MATERIAL SAFETY DATA SHEET

### 1. Product and Company Identification

**Product Name** : Flubendiamide 98% TC  
**Chemical Name** : N2-[1,1-dimethyl-2-(methylsulfonyl)ethyl]-3-iodo-N1-[2methyl-4-[1,2,2,2-tetrafluoro-1-(trifluoromethyl) ethyl] phenyl]-1,2-benzenedicarboxamide  
**Type** : Insecticide  
**Molecular formula** : C<sub>23</sub>H<sub>22</sub>F<sub>7</sub>IN<sub>2</sub>O<sub>4</sub>S

### 2. Composition/Information on ingredients

Chemical Name	CAS#	Percent or content(w/w)
Flubendiamide	272451-65-7	98%
Other ingredients	-	5%

### 3. Health Hazards Identification

#### General hazards

The product is a non-combustible solid and will not pose fire risk under normal conditions. The product is harmful to fish and other aquatic organisms.

#### Hazard overview Health effects

Active ingredient, in the product is a nicotinoid insecticide and symptoms are similar to those caused by nicotine poisoning. Symptoms of overexposure/acute exposure are intoxication and include weakness, blurred vision, headache, nausea, vomiting, giddiness, sweating, salivation, abdominal pain, muscular cramps, diarrhea, nervousness convulsion.

#### 4. First Aid Measures

If poisoning takes place, contact medical personal or hospital as early as possible. Before initiation of methodical medical treatment following measures are required to be provided to victim in the event of:

Skin exposure	:	Immediately remove contaminated clothing. Wash affected area(s) with soap and plenty of water. Re-use clothing after thorough washing with detergent.
Eye	:	Flush immediately with clean water and continue for 10 – 15 minutes, keeping eyelid open. Take medical advice if problem persists.
Inhalation	:	Remove the victim to fresh air. If breathing difficulty experienced provide artificial respiration. Consult medical personal.
Ingestion	:	Get medical attention immediately. Do not give anything by mouth to an unconscious person. If vomiting or diarrhoea has not occurred, victim may be given activated charcoal to reduce absorption of toxic material followed by gastric lavage.
Antidote	:	No specific antidote, treat symptomatically and provide supportive assistance for clinical development.

#### 5. Fire Fighting Measures

**Extinguishing media extinguishing media - small fires** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Extinguishing media - large fires** Alcohol-resistant foam or Water spray do not use a solid water stream as it may scatter and spread fire.

**Special hazards arising from the substance or mixture** As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion. Exposure to decomposition products may be a hazard to health.

**Advice for firefighters** Wear full protective clothing and self-contained breathing apparatus. Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

## 6. Accidental Release Measures

- Soil Spill : Dike the area. Absorb on sand or other absorbent media and place in closed container for proper disposal
- Water Spill : Absorb the material by activated carbon using suction hoses to remove trapped material
- Occupational Spill : Do not touch spilled material. Stop leak, if possible. Absorb on sand or other absorbent material and put in clean container for disposal.

## 7. Handling and Storage

- Handling : Use only in a well ventilated area. Minimize dust generation and accumulation. Avoid breathing of vapour and bodily contact.
- Storage : Store in a dry cool, well-ventilated and secured place under lock and key. Do not store foodstuff and animal feed in the same storage. Keep the containers in properly laid stocks with sufficient passage for free movement.

## 8. Exposure Controls/Personal Protection

- Respiratory : Approved respirator
- Eye and Face : Safety goggles or face shield
- Hands : Gloves
- Body : Long pant, long sleeve shirt, apron, boots, and hat
- Ventilation : Provide local exhaust
- Industrial Hygiene : Safety shower and eyewash should be provided at work place. Do not eat, drink or smoke while working. Wash hands before meals and after work with soap and water.

## 9. Physical and Chemical Properties

State	:	Powder
Colour	:	White
Melting Point	:	217.5 - 220.7°C
Solubility	:	Dispersible in water
pH	:	NA
Flash point	:	Not applicable, product is solid

## 10. Stability and Reactivity

Stability	:	Stable under standard condition
Oxidizing/ Reducing Properties	:	None
Hazardous decomposition	:	Combustion or thermal decomposition will evolve toxic and irritant vapors.

## 11. Toxicological Information

Acute oral LD <sub>50</sub>	:	>2000 mg/kg rats
Acute dermal LD <sub>50</sub>	:	> 2000 mg/kg rats
Acute inhalation LC <sub>50</sub>	:	2.29 mg/l/4 hours in rats
Skin irritation	:	Non irritant.
Eye irritation	:	Non irritant.
Dermal sensitization	:	Non-sensitizer.

## 12. Ecological Information

Acute Oral LC <sub>50</sub>		
Mallard duck	:	>2000 mg/kg
Bobwhite quail	:	>2000 mg/kg
Fish LC <sub>50</sub> (96 h)		
Rainbow trout	:	> 250 mg/l
Bees LD <sub>50</sub> (48 h)	:	>200 µg/a.i/bee
Oral		
Daphnia EC <sub>50</sub> (48 h)	:	> 60 µg/l

## 13. Disposal Considerations

Waste from residues/unused products should be disposed off in an approved landfill or in a chemical incineration equipped with scrubbers, in accordance with national and regional regulations. Do not allow material to contaminate ground water system. Do not contaminate surface water.

Contaminated packaging: Do not contaminate ponds, waterways or ditches with chemical or used container. Do not re-use empty containers.

Disposal : Dispose of empty containers in an incinerator approved for chemicals.

## 14. Transport Information

Product Name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
UN No.	:	3077
UN Hazard Class	:	9
UN Packing Group	:	III
Marine Pollutant status	:	YES
EMS	:	F-A, S-F

## 15. Regulatory Information

FAO / WHO, acceptable daily intake (ADI) : Not established

Toxicity Class (WHO, a.i.) : III

HMIS Hazardous Ratings : Health : 2

Flammability : 0

Physical Hazardous : 1

**S 35** This material and its container must be disposed of in a safe way.

**S 36/37/39** Wear suitable protective clothing, gloves and eye/face protection.

**S 61** Avoid release to the environment. Refer to special instructions/Safety data sheets.

**16. Other Information**

The information herein is presented in good faith and believed to be accurate. However, no warranty, expressed or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with Federal, State and Local laws and regulations.

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