



Hangzhou Tianlong Biotechnology Co., Ltd.

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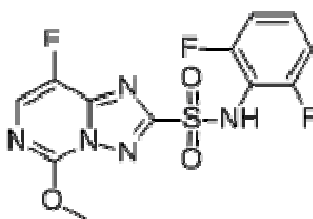
MATERIAL SAFETY DATA SHEET

1. Chemical Product and company Identification

Product Name: Florasulam

Molecular Formula: C₁₂H₈F₃N₅O₃S

StructuralFormula:



Molecular Weight: 359.28

Chemical Name: N-(2,6-difluorophenyl)-8-fluoro-5-methoxy[1,2,4]triazolo[1,5-c]pyrimidine-2-sulfonamide

CAS No.: 145701-23-1

Supplier: HANZHOU TIANLONG BIOTECHNOLOGY CO., LTD

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2. Composition / Information On Ingredients

Composition	CAS No.	Content %
Florasulam	145701-23-1	95.0
Other ingredients		5.0

3. Hazards Identification

Component	Symbol	R phrases
Florasulam	N	R50, R53

More important danger for the man: May be harmful if swallowed;

Dangers for the environment: Very toxic to algae. May cause long-term adverse effects in the aquatic environment;

Physical-chemical dangers: Not applicable.

4. First Aid Measures

If poisoning occurs, immediately contact a doctor or Poisons Information Centre, and follow the advice given. Show this Material Safety Data Sheet to a doctor.

Eye: 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 further treatment advice.

Skin: 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.

Ingestion: If swallowed, drink 1 or 2 glasses of water (or milk) and induce vomiting by touching the back of the throat with finger. If possible, contact a physician, Poison Control Center, or emergency center before inducing vomiting. Do not induce vomiting or give anything by mouth to an unconscious person. Take person and product container to the nearest emergency treatment center.

Inhalation: If respiratory discomfort or irritation occurs, move the person to fresh air. See a doctor if discomfort or irritation continues. If not breathing, give artificial respiration, preferably mouth-to-mouth. Get medical attention.

Note to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. Fire-Fighting Measures

Extinguishing media: Water fog or fine spray, carbon dioxide, dry chemical powder, foam;

Don't use: not applicable;

Particular risk: not applicable;

Measures of personal protection: safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

6. Accidental Release Measures

Personal cautions: safety glasses or goggles, rubber gloves, shoes plus socks, long-sleeved shirt, and long pants.

Cleaning methods

EX: Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste container.

Environmental cautions

EX: prevent the contamination of the floor and of beds of water. Isolate contaminated water.

7. Handling And Storage

Handling: Avoid getting in eyes or on skin, or clothing and breathing dust. Remove contaminated clothing immediately. Wash thoroughly after handling.

Storage: Keep in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

8. Exposure Controls / Personal Protection

Personal protective equipment

Respiratory protection: approved respirator;

Protective gloves: rubber gloves;

Eye protection: goggles;

Industrial hygiene: use good industrial hygiene. Wear face shield or goggles, elbow length PVC gloves, cotton overalls buttoned to the neck and wrist, washable hat and half face respirator with dust and vapor cartridge. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

9. Physical And Chemical Properties

Appearance: White to buff powder;

Boilting point: Decomposes before boiling;

Melting point: 193.5°C;

Density: 1.53 g/cm³;

Water solubility: 6360mg/l (20°C);

Flash point: Not highly flammable;

Autoignition Temperature: Not Available

10. Stability And Reactivity

Stability: Stable under the normal conditions;

Conditions to avoid: Fire, heat and high temperature;

Products to avoid: Strong basic, acidic or oxidising materials;

Hazardous decomposition products: None under normal conditions of storage and use.

11. Toxicological Information

Acute oral LD₅₀ for mice: 5000 mg/kg;

Acute dermal LD₅₀ for rat: >2000 mg/kg;

Inhalation LD₅₀ (4h) for rat: 5.0 mg/l;

Non-irritating to rabbit skin;

Non-irritating to rabbit eye;

Dermal sensitisation: Not a sensitizer (Guinea pig).

Chronic toxicity: Chronic exposure in rats led to slight nephrotoxicity (increased kidney weights, hypertrophy, and slight multi-focal mineralization of the papilla) at 250 and 500 mg/kg/day in males only. Additionally at 500 mg/kg/day, papillary necrosis and hyperplasia of the transitional epithelium (papilla) were observed in the kidney (males). Decreases in body weight and body weight gain were also observed in females after chronic exposure (250 mg/kg/day). Liver toxicity was observed in dogs (both sexes) in the form of increased alkaline phosphatase activity (59-127%), increased liver weights, hypertrophy, and hepatic vacuolation at 50 mg/kg/day after 90 days. After 1 year, there were increases in alkaline phosphatase (233-783%) in dogs (both sexes) but no changes in liver weights or gross or microscopic pathology at 50 mg/kg/day. Additionally, there were decreases in body weight, body weight gain and food consumption, as well as vacuolation of the zona reticularis and zona fasciculata in the adrenal gland (consistent with fatty change) in both sexes. There were no adverse effects noted after

chronic exposure to florasulam in mice up to the limit dose of 1000 mg/kg/day.

Reproductive effects: In animal studies, did not interfere with reproduction.

Teratogenic effects: No evidence of teratogenic effects was observed in studies with rats and mice.

Mutagenic effects: Florasulam was negative for mutations and chromosomal aberrations across four in vitro/in vivo genotoxicity studies and was considered not to pose a mutagenic concern.

Carcinogenic effects: There were no treatment-related increases in tumors in rat and mouse carcinogenicity studies after exposure to florasulam.

12. Ecological Information

Effects on birds:

LD₅₀ for mallard duck: 500 mg /kg;

LD₅₀ for Japanese quail: 5000 mg/kg;

Effects on aquatic organisms:

LC₅₀ (96h) for rainbow trout: 3.2 mg/l;

LC₅₀ for algae : <1.0 mg/l;

EC₅₀ for invertebrates (Aquatic): >100 mg/l;

Effects on other organisms:

No data available.;

13. Disposal Considerations

Material that cannot be used at the site should be disposed of in an approved waste disposal facility following all applicable Federal, State and Local regulations. If burned, stay out of smoke. Do not contaminate water supplies by disposal of wastes or containers.

14. Transport Information

Not applicable

15. Regulatory Information

Not applicable

16. Other Information

All information and instructions provided in this Material Safety Data Sheet (MSDS) are based on the current state of scientific and technical knowledge at the date indicated on the present MSDS and are presented in good faith and believed to be correct. This information applies to the PRODUCT AS SUCH. In case of new formulations or mixes, it is necessary to ascertain that a new danger will not appear. It is the responsibility of persons on receipt of this MSDS to ensure that the information contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produce formulations

containing this product, it is the recipients sole responsibility to ensure the transfer of all relevant information from this MSDS to their own MSDS.