SAFETY DATA SHEET
Safety Data Sheet according to:
Regulation (EC) No. 1272/2008 (CLP) and according to Regulation (EC) No. 830/2015

Date of Revision: 23-January-2018

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier
Product Name: Fluazinam
Trade Name: Fluazinam Technical
Chemical Name: 3-Chloro-N-(3-Chloro-2,6-dinitro-4-Trifluoromethyl) phenyl-5-trifluoro-methyl-2-pyridinamine
CAS Number: 79622-59-6
EC Number: 612-287-00-5

1.2. Relevant identified uses of the substance or mixture and uses advised against
Recommended Use: Fungicide active ingredient for agricultural crops. Any other use not indicated is not recommended.

1.3. Details of the supplier of the safety data sheet
Supplier Address: Cropnosys India Pvt Ltd
Plot No. 5303, GIDC Estate, Phase IV, District: Valsad
Vapi- 396195, Gujarat, INDIA
Tel No.: Tel: +91 22 652 26797
Email address: info@cropnosysindia.com
Website: www.cropnosysindia.com

1.4. Emergency telephone number
Emergency Telephone: +91 22 652 26797

Section 2: HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture
Classification according to Regulation (EC) No. 1272/2008 [CLP] - 6˚ ATP (Regulation No. 605/2014)
Acute toxicity, inhalation: Category 4 - (H332)
Skin sensitization: Category 1A - (H317)
Serious eye damage: Category 1 - (H318)
Reproductive toxicity: Category 2 - (H361d)
Acute aquatic toxicity: Category 1 - (H400) (M factor=10)
Chronic aquatic toxicity: Category 1 - (H410) (M-factor=10)
Signal word: Danger

Physical and chemical hazards:
Not classified for all chemical-physical hazards. No particular risk of fire.

Health adverse effects:
May cause irritation and allergic reactions in case of skin contact. The symptoms of the allergic effect range from mildly, itchy, papular rash to painful, weeping and blistering dermatitis. May cause irritation upon contact with eyes. Harmful in case of inhalation.

Health adverse effects:
Highly toxic for aquatic organisms. May cause long term negative effects on the aquatic environment.

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label elements
Labeling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms

![GHS07](image1) ![GHS05](image2) ![GHS09](image3) ![GHS08](image4)

Signal Word
DANGER

Hazard Statements
H317 - May cause an allergic skin reaction
H318 - Causes serious eye-damage
H332 - Harmful if inhaled
H361d - Suspected of damaging the unborn child
H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements (Prevention)
P201 - Obtain special instructions before use
P261 - Avoid breathing dust/fume/gas/mist/vapours spray
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/ eye protection/ face protection

Precautionary Statements (Reaction)
P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell
P305+P351+P338 + P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Immediately call a POISON CENTER/doctor

2.3. Other hazards
Combustible solid. In case of fire it may develop toxic fumes.
Section 3: COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Identification Numbers</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluazinam 98% Technical*</td>
<td>79622-59-6</td>
<td>EC Number: -</td>
<td>-</td>
<td>≤ 100%</td>
</tr>
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<td></td>
<td></td>
<td>CAS Number: 79622-59-6</td>
<td></td>
<td></td>
</tr>
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<td></td>
<td></td>
<td>INDEX Number: 612-287-00-5</td>
<td></td>
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</tr>
</tbody>
</table>

*Synonym: 3-Chloro-N-(3-chloro-2,6-dinitro-4-trifluoromethylphenyl)-5-trifluoromethyl-2-pyridylamine
*Molecular Formula: C_{13}H_{4}Cl_{2}F_{5}N_{4}O_{4}

For the full text of the H-Statements mentioned in this Section, see Section 16.

3.2 Mixtures

Not applicable

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

In general

Get medical attention immediately. Show this safety data sheet to the doctor in attendance. Check that the respiratory tract is not obstructed and position the victim on the side with head lower than the body. Always wash clothing before reusing.

After Inhalation

Remove the affected person from the contaminated area and transport to a well ventilated area. Keep the person warm and at rest. If breathing has stopped, perform artificial respiration preferably mouth-to-mouth. Get medical attention immediately.

After eye contact

Remove contact lenses, if present and easy to do. Rinse with plenty of water (15 minutes at least), holding the eyelids wide open in order to remove completely any traces of the product. Get medical attention.
After skin contact

Immediately remove contaminated clothing and footwear, gently remove any traces of product remaining on the body and wash exposed parts with large amounts of water and soap. If necessary, get medical attention.

After Ingestion

If the subject is not conscious or presents with convulsions, do not administer liquids and do not induce vomiting. Rinse mouth with water. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

May cause irritation and allergic reactions in case of skin contact. The symptoms of the allergic effect range from mildly itchy, papular rash to painful, weeping and blistering dermatitis. May cause irritation upon contact with eyes. Harmful in case of inhalation.

4.3. Indication of any immediate medical attention and special treatment needed

No specific antidote exists. Gastric lavage and/or administration of activated charcoal can be considered. After decontamination, treatment of exposure should be directed at the control of symptoms and the clinical condition.

Section 5: FIRE-FIGHTING MEASURES

The product is combustible. Even when exposed to flame or heat, the product presents a low fire risk.

5.1. Extinguishing media

Extinguishing means

To extinguish the fire, use: carbon dioxide, chemical powder or foam.

Unsuitable extinguishing means

Atomized water may be used for cooling packages not directly affected, the flames, but water must not come into direct contact with the product so as to prevent environmental pollution.

5.2. Special hazards arising from the substance or mixture

In the event of fire, the product may develop toxic gases (nitrogen oxides [NOx], carbon monoxide [CO\textsubscript{2}], corrosive fumes of hydrogen chloride and hydrogen fluoride).

5.3. Advice for firefighters

Remove all people not essential to firefighting operations. Isolate the area. Put out the fire remaining at a safe distance. In case of large fires (particularly in confined spaces), use self-contained breathing apparatus and full protective clothing. Do not use a direct water jet but atomized water; for small fires use foam, chemical powder or CO\textsubscript{2} portable extinguishers. Cool containers until not directed involved by flames until the fire is completely put out, avoiding contact between water and product in such a way to prevent environmental pollution; then continue to cool them even when risk of re-ignition has passed. Evacuate the area in case of whistling sounds from tanks or in case of decolouration of containers.

Allow only well trained personnel properly informed on the product’s hazards to intervene. Avoid contact with the product while putting out the fire. If possible, remove containers exposed to heat, without creating additional risks; otherwise cool them down with water. If possible, separate water used for putting out the fire.
**Section 6: ACCIDENTAL RELEASE MEASURES**

6.1. **Personal precautions, protective equipment and emergency procedures**

Wear appropriate personal protective equipment (P.P.E.). For further information, refer to point 8 “Exposure control/individual protection”. In the event of fire or accidental release, keep untrained persons not involved in handling the emergency away and upwind. Avoid the formation of dust and aerosols. Use only in presence of adequate ventilation where dust is formed. Avoid all contact with the product. Avoid breathing dusts, vapours, mist or aerosols.

6.2. **Environmental precautions**

Stem accidental leaking to keep the product from entering water or sewerage system. Notify the competent authorities if losses have flowed into a body of water or into sewerage system. General protective measures of ventilation in case of accidental release are not contemplated, because the product is a melting solid with high vapour pressure. In case of accidental release, contact the local Firefighting office.

6.3. **Methods and material for containment and cleaning up**

Take up with sand/absorbent materials and place in appropriate containers adequately labelled and suitable for subsequent disposal. In case of large scale-losses, circumscribe the area and gather the materials with a suitable industrial vacuum. Consult the manufacturer. Dispose of the materials or the solid residue in an authorised disposal centre. In the event of fire or accidental release, keep untrained persons not involved in handling the emergency away and upwind. In case of fire, circumscribe the area to avoid accidental leaking of the product and use as little water as possible. Collect fire-fighting water; if water runs into an outflow system, notify the authorities.

6.4. **Reference to other Sections**

Refer to disposal considerations listed in section 13.

**Section 7: HANDLING AND STORAGE**

7.1. **Precautions for safe handling**

Adopt standard personal hygiene and safety measures. Do not eat or keep food in working area. Wash hands and exposed parts before eating, drinking or smoking and after work. Avoid the formation of dust and aerosols. Use only in presence of adequate ventilation where dust is formed. Avoid all contact with the product. Avoid inhaling dusts. Ensure that there are efficient emergency eyewash facilities and showers in proximity.

7.2. **Conditions for safe storage, including any incompatibilities**

Storage of the product must comply with the provisions of current local regulations. Keep the product in its original containers in a cool, dry, well ventilated and separated area. Keep away from food, beverages, animal foodstuffs, drugs, cosmetics, fertilisers and water. Quantitative limits for storage are not set, except particular laws dispositions.

7.3. **Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.
Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

- TLV/TWA (OSHA): no specific limit for Fluazinam established.
- TLV/STEL (ACGIH 2013, USA): no specific limit for Fluazinam established.
- TLV/TWA (OSHA): 3 mg/m³ for respirable particles PNOC.
- TLV/STEL (ACGIH 2013, USA): 10 mg/m³ for inhalable particles PNOC.

[TLV: Threshold Limit Value – TWA: Time Weighted Average - STEL: Short Term Exposure Limit]

8.2. Exposure controls

Ensure good ventilation of work site. Capture dusts where they are generated. Observe normal industrial hygiene standards. Do not eat, drink or smoke while handling the product. Wash hands before breaks.

Engineering measures

- Handle in accordance to general industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

- Wash hands and face after working with the product.

Respiratory protection

- Where risk assessment shows air-purifying respirators are appropriate use (EN 143) “Respiratory protective devices - Particle filters - Requirements, testing, marking” respirator cartridges as a backup to engineering controls. If the full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EN).
- In case of emergency, use a self-contained breathing apparatus.

Hand protection

- Protective gloves [EN 374 “Protective gloves against chemicals and micro-organisms”]. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws.

Eyes protection

- Full protection safety goggles [EN 166 “Personal eye protection”]. Ensure that there are efficient emergency eyewash facilities and showers in proximity.

Skin protection

- Wear long-sleeved protective work clothing. Ensure that there are efficient emergency eyewash facilities and showers in proximity.

Environment exposure controls

- Avoid any release in the environment.
Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid</td>
</tr>
<tr>
<td>Colour</td>
<td>Light yellow to light brown</td>
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<tr>
<td>Odour</td>
<td>Pungent</td>
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<tr>
<td>Odour Threshold</td>
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<tr>
<td>pH</td>
<td>5.9</td>
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<tr>
<td>Melting point/freezing point</td>
<td>119 °C</td>
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<tr>
<td>Boiling point/range</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Evaporation rate</td>
<td>No data available</td>
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<tr>
<td>Upper/lower flammability; or</td>
<td>No data available</td>
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<tr>
<td>explosivity limits</td>
<td></td>
</tr>
<tr>
<td>Vapour pressure</td>
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<tr>
<td>Vapour density</td>
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<tr>
<td>Relative density</td>
<td>1.81 g/ml</td>
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<tr>
<td>Water solubility</td>
<td>0.001 cm³ at 20 °C (pH=7)</td>
</tr>
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<td>Partition Coefficient n-octanol/water</td>
<td>log Pow: 4.03 at 25 °C</td>
</tr>
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<td>Autoignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<td>Viscosity</td>
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<tr>
<td>Explosive properties</td>
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<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2. Other information

No data available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No information available

10.2. Chemical stability

The product is stable at room temperature under normal conditions of use.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Heating of the product can produce harmful and irritating vapours.

10.5. Incompatible materials

None incompatible material known.
10.6. Hazardous decomposition
None under normal storage and use conditions. In the event of fire the product may develop toxic gases (nitrogen oxides [NOx], carbon oxides [CO-CO₂], corrosive fumes of hydrogen chloride and hydrogen fluoride).

Section 11: TOXICOLOGICAL INFORMATION

This section is reserved to the medical personnel, to health and safety professionals and to toxicologists. If not shown in the following, toxicological data mentioned in section 11.1 of Regulation N° 830/2015 have to be considered as “not available”.

11.1. Information on toxicological effects

Acute toxicity
- by ingestion (rat)   LD₅₀ Oral > 2,000 mg/kg bw
- by skin contact (rabbit)  LC₅₀ > 2,000 mg/kg bw
- by inhalation (rat)  LC₅₀ (4 h) > 1,68 mg/L
- skin erosion / irritation Skin - slight skin irritation
- serious eye damage / eye irritation Eyes - moderate eye irritation

Respiratory or skin sensitization
Demonstrated potential to produce dermal sensitization

Germ cell mutagenicity
No data available

Carcinogenicity
No carcinogenic effects

Reproductive toxicity
No effects in fertility at maternal non-toxic doses. Fluazinam is not teratogenic at maternal non-toxic doses.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Toxicity to fish
LC₅₀ - Oncorhynchus mykiss (Rainbow trout) - 0.036 mg/l - 96.0 h

Toxicity to Daphnia & other aquatic invertebrates
EC₅₀ - Daphnia magna (Water flea) - 0.18 mg/l - 48.0 h

Toxicity to Algae per to algae
EC₅₀ - Desmodesmus subspicatus (green algae) - 0.18 mg/l - 4 days

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential
See section 9 for octonal-water partition coefficient.

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment
No data available.

12.6. Other adverse effects
Not known.
Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product/packaging
Wash packaging thoroughly with hot water avoiding inhalation. Empty, cleaned packages may be reused, recycled or disposed of in accordance with local and national regulations.

Washing products
Do not pollute streams, rivers or canals with residues coming from storage, processing or cleaning activities or with used containers. Washing solutions must be disposed of in compliance with the current local/national regulations.

Section 14: TRANSPORT CONSIDERATIONS

14.1 UN number 3077
14.2 Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (FLUAZINAM)
14.3 Transport hazard class(es) 9
14.4 Packing group III
14.5 Environmental Hazards Marine pollutant

Land Transport
UN No.: 3077
“Environmentally hazardous substance, solid n.o.s. (Fluazinam)”
Class: 9
Packing Group: III
Danger No: 90

Railroad Transport [RID]
UN No.: 3077
“Environmentally hazardous substance, solid n.o.s. (Fluazinam)”
Class: 9
Packing Group: III
Danger No: 90

Road Transport [ADR]
UN No.: 3077
“Environmentally hazardous substance, solid n.o.s. (Fluazinam)”
Class: 9
Packing Group: III
Danger No: 90

Air Transport
[ICAO/IATA]
UN No.: 3077
“Environmentally hazardous substance, solid n.o.s. (Fluazinam)”
Class: 9
Packing Group: III
Danger No: 90

Sea Transport
[IMO/IMDG]
UN No.: 3077
“Environmentally hazardous substance, solid n.o.s. (Fluazinam)”
Class: 9
Packing Group: III
Danger No: 90
Marine Pollutant
EmS: F-A, S-F
Multimodal Transport:
ISOTANK: “Environmentally hazardous substance, solid n.o.s. (Fluazinam)”
Class: 9; N° ONU 3077; GI III; Marine Pollutant

Note: Mailing is not allowed.

14.6 Special precautions for user
Refer to sections 6, 7 and 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable because of Fluazinam not intended for transport in bulk.

Section 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Subject</th>
<th>Applicability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulation (EC) N° 2037/2000</td>
<td>Substances that deplete the ozone layer</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Regulation (EC) N° 689/2008</td>
<td>Export and import of dangerous chemicals</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

- art. 6 and 7 = 100 tons
- art. 8 = 200 tons |


Leg. Decree N° 152/2006 and s.s.a. | Waste water | No specific limit for Fluazinam. |

15.2 Chemical Safety Assessment
No Chemical Safety Assessment (CSA) has been carried out because of Fluazinam as already being registered according to art. 15 « Substances in plant protection and biocidal products » of Regulation N° 1907/2006 (REACH).

Section 16: OTHER INFORMATION


The updating has been carried out to be compliant to Regulation (EC) N° 830/2015;
Changes are suitable through a straight line on the left edge of the page. This issue annuls and replaces the previous edition issued by Cropnosys India Pvt Ltd.
**Full text of Hazard Statements (H-Statements) referred to under sections 2 and 3**

- **H317** May cause an allergic skin reaction.
- **H318** Causes serious eye damage.
- **H332** Harmful if inhaled.
- **H361d** Suspected of damaging the unborn child.
- **H400** Very toxic to aquatic life.
- **H410** Very toxic to aquatic life with long lasting effects.

**Full text of Precautionary Statements (P-Statements) referred to under section 2**

- **P201** Obtain special instructions before use.
- **P261** Avoid breathing dust/fume/gas/mist/vapours/spray.
- **P273** Avoid release to the environment.
- **P280** Wear eye protection / face protection.
- **P304+P340+P312** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
- **P305+P351+P338+P310** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

**Full text of Hazard Classes-and-Categories referred to under section 3**

- **Acute Tox. 4** Acute toxicity; Category 4.
- **Eye Damage. 1** Serious eye damage; Category 1.
- **Skin Sens. 1A** Skin sensitization; Category 1A.
- **Repr. 2** Reproductive toxicity; Category 2.
- **Aquatic Acute 1** Acute hazard (short term) to the aquatic environment; Acute toxicity, Category 1.
- **Aquatic Chronic 1** Chronic hazard (long term) to the aquatic environment, Chronic toxicity, Category 1.

**Legend of the abbreviations and acronyms used in the safety data sheet:**

- **ACGIH** American Conference of Industrial Hygienists
- **ADR** Accord européen relative au transport international des marchandises dangereuses par route
- **BCF** Bioconcentration Factor
- **bw** Body weight
- **CAS** Chemical Abstract Service
- **CLP** Classification, Labelling and Packaging
- **CSA** Chemical Safety Assessment
- **EC** European Community
- **EC50** Effective Concentration 50
- **EINECS** European Inventory of Existing Commercial Chemical Substances
- **LC50** Lethal Concentration 50
- **LD50** Lethal Dose 50
- **IATA** International Air Transport Association
- **ICAO** International Civil Aviation Organization
The material safety data sheet is updated to Regulation (EC) No. 1272/2008 [CLP] and according to Regulation EC No. 830/2015

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet