**Material Safety Data Sheet**

## Azoxystrobin 25% + Flutriafol 12.5% SC

**Section 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

**Product Name :** Azoxystrobin 25% + Flutriafol 12.5% SC

**Recommended Use :** Fungicide

**Company :** Sharda Cropchem Limited

Domnic Holm, 29th Road,

Bandra(w), Mumbai – 400 050

**Phone Number :** +91-22-66782800

**Section 2: COMPOSITION /INFORMATION ON INGREDIENTS**

**Identity CAS No Typical % Other information**

Azoxystroin Tech 131860-33-825% w/w

Flutriafol 76674-21-0 12.5% w/w

**Section 3: HAZARDS IDENTIFICATION**

**Phys**

**Hazard Classification :** Acute toxicity – Inhalation – Category 4

**Most important hazards** : The main hazards related to the use and handling of this product

They are related to ocular exposure, dermal, inhalation and

ingestion. Use EquipmentIndividual protection (PPE) when

handling the product.

**Product effects** :To human health: In laboratory tests, the product was classified as

mildly irritatingeye in rabbits and little irritating to the skin. Did

not cause dermal sensitization inguinea pigs.

**Environmental** : The product is toxic to aquatic organisms (microcrustaceans and

algae).

**Specific hazards** : This product is a pesticide and must be used only in accordance

with therecommendations contained in the instructions.

**Section 4 – FIRST AID MEASURES**

**Description of necessary first aid measures:**

At the first signs of intoxication, one should not wait for symptoms to develop. Followimmediately the recommendations below and call a doctor

Swallowed: If swallowed, DO NOT INDUCE VOMITING. Rinse mouth and drink water. Casevomiting occurs, rinse mouth and drink fluids again. Inducing vomiting is contraindicated into the risk of aspiration and chemical pneumonitis if spontaneously occurring should not beavoided; lay the patient on side to prevent waste aspire. AVOID apply mouth-breathingmouth in case of ingestion of the product; using manual resuscitation equipment (Ambu).Using PROTECTION equipment: To avoid skin contact, eye and inhaled with the product.Seek medical advice immediately, with this sheet of information. Never give anything by mouth toan unconscious person.

Eye: Rinse immediately with running water or saline,opening his eyes occasionally until there is no more evidence of product. If lensescontact, they should be removed and after a few minutes proceed wash again. If theirritation persists, seek medical advice immediately, with this sheet of information.

Skin: Immediately wash the exposed site with water and plenty of soap andRemove contaminated clothing and shoes. If symptoms of irritation persist, seeka physician immediately with this sheet of information.

Inhaled: At the sign of discomfort by inhalation of the product, remove the victim to fresh air. Ifoccur cough / dyspnea, assess as irritation, bronchitis or pneumonia. Administer oxygen,assist in ventilation. Treat bronchospasm with ß2agonists and inhaled corticosteroids mouthor parenterally. If the symptoms persist, seek medical advice immediately, with this sheet ofinformation.

**Poisoning symptoms:** Gastric lavage and / or activated charcoalcan be considered in cases of severe poisoning.

**Notes for Medical Personnel:** No specific antidote for this substance. After decontamination, the

Treatment is symptomatic and supportive.

**-FIGHTING MEASURES**

**5. FIRE HAZARD PROPERTIES**

**Type of Hazard:** This product is slightly flammable, non-explosive and combustible

**Extinguishing Media and methods:**

In case of fire, use water extinguishers or fog,CO2or chemical powder. Use water *spray* to keep other cool fire exposed containers.Approach the downwind fire to avoid inhalation of toxic fumes fromdecomposition of the product in flames. Combat local fire protected or maximumdistance possible.

**Recommended Protective Clothing:**

 Use self-contained breathing apparatus and protective equipment. Individual (EPI) suitable for firefighting.

**RELEASE MEASURES**

**6. ACCIDENTAL RELEASE MEASUREMENT**

**Emergency Procedures:**

**Personal Precautions:** Isolate and signal the contaminated area. Contact local competent authorities**.**

Use personal protective equipment - PPE (waterproof overalls, gloves and rubber boots,protective glasses and mask with filters).

**Environmental Precautions:** It is recommended to have a predetermined procedure to be followed in the case ofspills / leaks.In any case, when there is a safe way to do so, the spill / leak must beinterrupted to avoid additional contamination of surfaces: the soil or water. Keeppeople and animals out of the area of occurrence.

**Procedure for Spill:**

In case of spillage, if possible, tight the flow, notallowing the product to enter drains, sewers or water bodies. Follow the instructions toNext, according to the affected surface.On the floor or other impervious surfaces: The spilled / leaked must be immediatelystagnant and absorbed by absorbent material, such as universal binders, calcium hydroxide or

Absorbent clays: Contaminated material should be collected and packed in containersappropriate, properly sealed and marked for later disposal adequate. Washarea with caustic soda and plenty of water. Absorb wash water with absorbent material placein appropriate, sealed and properly identified containers for later disposalappropriate. Water used for washing should not reach the floor drain drains.

In soil: Product to be withdrawn digging up and removing the layer of soil reached,by conditioning all content in appropriate containers, sealed and properly identified,for later disposal adequate.

In the water: as much as possible should be contained by isolating the contaminated water area. The waterreached should be collected and sent for proper disposal and treatment. In case ofspills / leaks of major and uncontrollable, immediately informlocal authorities.In any case, the materials collected and packed in sealed containers and dulyidentified must be properly forwarded to proper disposal.

**Procedure for Disposal:**

**Array of products and waste:** waste should be reprocessed or submitted tofinal destination, through the appropriate deactivation method. Do not contaminate ponds, waterwaysor ditches with debris and waste product or used containers. Contact the registrant companyby phone indicated in item 1 of this sheet.

**Used packaging:** The packaging must be submitted to the triple washing process, asindicated on the product label for the return to the manufacturer. The packaging must be drilled tounusable for other purposes.Improper disposal of empty containers and remains of products on the environment becausecontamination of soil, water and air, damaging the fauna, flora and human health.

**Se**

**tion 7: HANDLING AND STORAGE**

**7. HANDLING AND STORAGE**

**Handling Practices:** In industrial environment it is recommended to avoid any direct contact with the product. Handle the productin places with adequate ventilation or gas exhaust system. The gases should be filteredor treated prior to disposal into the atmosphere. Always use Personal Protective Equipment -EPI.

When using the product for the purpose listed as crop protection, should be observedthe recommendations contained in the package insert, label and agronomic prescription of the product.

***Storage:***

Keep the product in its original packaging, always closed. The site should be unique totoxic and should be isolated from food, drink, feed or other materials. Theconstruction must be masonry or non-combustible material. The location must be ventilated, coveredand have waterproof floors. Place warning sign that **read:** **CAUTION POISON.** Lock the place, preventing access of unauthorized persons, especially children. There should always beappropriate packages available to involve broken packaging or for the collection ofcast products.

**: PHYSICAL AND CHEMICAL PROPERTIES**

**Section: 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION**

***Engineering Controls:***

**Exposure Control Measures:** If handled indoors, provide mechanical exhaust ventilation to minimize airborneconcentrations.

***Personal Protective Equipment (PPE):***

Wear Personal Protective Equipment (PPE) inhandling this product. Keep unprotected persons (without EPI) and children away from the areawork.

Respiratory protection : protective mask with particle filter.

Hand protection : Use gloves containing laminated barrier, nitrile or Viton.

Eye protection : Wear protective glasses.

Protection of skin and body : Use waterproof cotton overalls with long sleeves and bootsrubber.

**: PHYSICAL AND CHEMICAL PROPERTIES**

**Section: 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Opaque liquid

**Flash Point:** 185.36° F (85.2° C)

**Odour:** Not rated

**pH:** 7.65

**Flammability:** Not highly flammable

**Surface tension:** 48.9±0.7(mN/m)

**Bulk density:** 1.01 g / cm3at 20 ° C

**Behaviour in water: Solubility of Azoxystrobin:** 6.7 mg / L at pH 7

**Solubility of Flutriafol:** 130 mg / L at 20 ° C

**OTHER PROPERTIES**

**Explosive properties:** Not explosive

**Combustibility:** Combustible liquid

**Oxidising properties:** Non-oxidising

**Corrosiveness:** Non-corrosive

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Section : 10 STABILITY AND REACTIVITY**

**Stability of the Substance:** The product is stable at ambient temperature and pressure

**Conditions to Avoid:** None known

**Incompatible Materials:**None known

**Hazardous DecompositionProducts:** Essential combustion products are volatile compounds, toxic, irritant and inflammable as nitrogen oxides, cyanide, hydrogen, hydrogen fluoride, sulfur dioxide, carbon monoxide, carbon dioxide and various organic compounds.

**Hazardous Reactions:** Not known to occur.

**CAL AND CHEMICAL PROPERTIES**

**Section : 11 TOXICOLOGICAL INFORMATION**

The mechanisms of toxicity of the active ingredients Azoxystrobin and Flutriafol are not knownin humans.Azoxystrobin is rapidly absorbed and found in highest concentration in the liver. It isextensively metabolized and rapidly excreted. There is no evidence of accumulation.The flutriafol is rapidly absorbed after ingestion. Your metabolism is almost complete and israpidly excreted. There is no evidence of accumulation.

Information in accordance with the different exposure conditions:

Ingestion : DL50oral rat: > 2000 mg / kg

Skin : DL 50 Dermal rat: > 4000 mg / kg

Inhalation : CL50inhalation rat: > 5.0 mg / L / 4h

Irritation of skin and eyes: In laboratory tests with rabbits, the product was not classified as skin irritant & eye irritant.

Dermal sensitization: The product is not sensitizing dermal.

Carcinogenicity: No carcinogenic effect was found for the active ingredients.

Reproductive effects: There was no effect on fertility.

Teratogenicity: No teratogenic effect was observed for the active ingredients.

Mutagenicity: None of the active ingredients is mutagenic

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Section: 12 ECOTOXICOLOGICAL INFORMATION**

The product is toxic to fish, aquatic invertebrates and green algae. It is considered as lesstoxic to insects, birds and micro / macro soil organisms.

Ecotoxicity:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  | Azoxystrobin | Flutriafol |
| Fish | Rainbow trout *(Oncorhynchusmykiss)* | 96h CL50 | 0.47 mg / L | 61mg / L |
|  |  | NOEC - 28 days | 0.16 mg / l | 6.2 mg / L |
| Invertebrates | Daphnia *(Daphnia* *magna)* | 48h EC50 | 0.28 mg / L | > 78 mg / L |
|  |  | NOEC - 21 days | 0.044 mg / L | 0.31 mg / L |
| Algae | Green Algae |  |  |  |
|  | *(Pseudokirchneriella subcapitata)* | 96h CI50 | 0.36 mg / L | 12mg / L |
|  | *(Scenedesmus subspicatus)* | 72h CI50 |  | 1.9 mg / L |
| Earthworms | *Eiseniafoetida* | 14 days GB50 | 283 mg / kg / soil | > 100 mg / kg / soil |
| Birds | Real duck *(Anas* *platyrhynchos)* | DL50 | >1000 mg / kg | >5000 mg / kg |
|  | Partridge *(Colinus* *virginianus)* | DL50 | >1000 mg / kg |  |
|  |  | DL50- Diet | >5200 mg / kg |  |
| Insects | Bees *(Aphis* *mellifera)* | DL50- Contact | 200 / Bee | 50 / Bee |
|  |  | DL50- Oral | 25 ug / bee | 2 g / Bee |

**Mobility:** Under normal conditions, azoxystrobin has low to moderate mobility in soil,while the mobility is moderate and flutriafol depends on the pH of the soil and organic matterpresent.

**Persistence and degradability:** The azoxystrobin does not meet the criteria for being quicklybiodegradable, but is degraded in the environment. The degradation occurs by photolysis andmicrobial megradação. The half-life of degradation occurs in a few weeks in aerobic soil andwater. The flutriafol is not readily biodegradable. The half-life of degradation varies with thecircumstances, but it is generally over a year in soil and water.

**Bioaccumulation potential:** The active ingredients have no potential to bioaccumulate. Theflutriafol bioaccumulation factor is estimated as 7 for fish.

**PROPERTIES**

**Section : 13 DISPOSAL CONSIDERATION**

**t3: DISPOSAL CONSIDERATIONS**

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Used packaging: The packaging must be submitted to the triple washing process, asindicated on the product label for the return to the manufacturer. The packaging must be drilled tounusable for other purposes.Improper disposal of empty containers and remains of products on the environment becausecontamination of soil, water and air, damaging the fauna, flora and human health**.**

The disposal of waste, residues of the product and empty containers must be made ​​according tolocal regulations.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Section : 14 TRANSPORT INFORMATION**

**t3: DISPOSAL CONSIDERATIONS**

**National and international regulations:**

Trucking

UN number 3082

Name Shipment: SUBSTANCES PRESENTING RISK FOR MEDIUM

ENVIRONMENT, LIQUID, NOS (contains azoxystrobin and flutriafol)

Packing Group III

Risk Class 9

Subclass ND

Number of Risk ND

Air Transport

IATA Class 9

UN number 3082

Shipping Name SUBSTANCES REPRESENTING RISK FOR THE ENVIRONMENT

ENVIRONMENT, LIQUID, NOS (contains azoxystrobin and flutriafol)

Packing Group III

Maritime Transport

UN number 3082

Name Shipment SUBSTANCES PRESENTING RISK FOR MEDIUM

ENVIRONMENT, LIQUID, NOS (contains azoxystrobin and flutriafol)

IMO Class 9

Risk Class 9

Subclass ND

Number of Risk ND

Special precautions: Avoid contact with skin. Marine pollutant.

Railway Transport

UN number 3082

Name Shipment SUBSTANCES PRESENTING RISK FOR MEDIUM

ENVIRONMENT, LIQUID, NOS (contains azoxystrobin and flutriafol)

Packing Group III

Risk Class 9

Subclass ND

Number of Risk ND

**Section 15: REGULATORY INFORMATION**

**FIFRA:** 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 on non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation.

Avoid contact with skin, eyes or clothing.

Harmful if absorbed through skin.

Harmful if swallowed.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

Remove and wash contaminated clothing before reuse.

Prolonged or frequent skin contact may cause allergic reactions in some individuals.

**EPA/CERCLA Reportable Quantity (RQ):** Not applicable

**SARA TITLE III:**

*Sec. 302, Extremely Hazardous Substance Notification:* This material is not known to contain any Extremely Hazardous Substances.

*Sec. 311/312, Hazard Categories:* Immediate (acute) health hazard

Chronic (delayed) health hazard

Fire hazard

*Sec. 313, Toxic Chemicals Notification*: Not applicable

**Section 16: OTHER INFORMATION**

The information contained in the Safety Data sheet is correct to the best of our knowledge at the date of issue. It is intended as a guide for the safe use, handling, disposal, storage and transportation and is not intended as a warranty or as a specification.