

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

| | | | |
|-----------------------------|---|---------------------|-----------------|
| Product Name: | AXIAL TBC HERBICIDE | Product No.: | A15351A |
| EPA Signal Word: | Warning | | |
| Active Ingredient(%): | Florasulam (0.75%) | CAS No.: | 145701-23-1 |
| Chemical Name: | 2',6',8-trifluoro-5-methoxy[1,2,4]triazolo[1,5-c]pyrimidine-2-sulfonanilide | | |
| Chemical Class: | Herbicide | | |
| Active Ingredient(%): | Pinoxaden (9.00%) | CAS No.: | 243973-20-8 |
| Chemical Name: | Propanoic acid, 2,2-dimethyl-,8-(2,6-diethyl-4-methylphenyl)-1,2,4,5-tetrahydro-7-oxo-7H-pyrazolo[1,2-d][1,4,5]oxadiazepin-9-yl ester | | |
| Chemical Class: | Phenylpyrazoline Herbicide | | |
| EPA Registration Number(s): | 100-1314 | Section(s) Revised: | 2, 3, 14 |

2. HAZARDS IDENTIFICATION
Health and Environmental

Harmful if inhaled. May be harmful if swallowed. Irritating to eyes and skin. May cause respiratory tract irritation. May cause drowsiness or dizziness. May be harmful if swallowed and enters airway.

Combustible liquid.

Hazardous Decomposition Products

None known.

Physical Properties

Appearance: Light golden liquid

Odor: Aromatic

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Material | OSHA PEL | ACGIH TLV | Other | NTP/IARC/OSHA Carcinogen |
|-----------------------------------|-----------------|-----------------|---|--------------------------|
| Petroleum Solvent | Not Established | Not Established | 100 mg/m ³ (15-17 ppm) TWA * | No |
| Cloquintocet-Mexyl (2.25%) | Not Established | Not Established | 10 mg/m ³ TWA *** | No |
| Tetrahydrofurfuryl Alcohol (THFA) | Not Established | Not Established | 0.5 ppm TWA **** | No |
| Pinoxaden (9.00%) | Not Established | Not Established | < 0.1 mg/m ³ 8-Hr TWA *** | No |

Florasulam (0.75%) Not Established Not Established Not Established No

* recommended by manufacturer

*** Syngenta Occupational Exposure Limit (OEL)

**** Recommended by AIHA (American Industrial Hygiene Association)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: D, S

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

- Ingestion:** If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
- Eye Contact:** If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact:** If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation:** If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): 172°F (Pensky-Martens CC)
- Flammable Limits (% in Air): Lower: Not Applicable Upper: Not Applicable
- Autoignition Temperature: 563°F
- Flammability: Combustible liquid

Unusual Fire, Explosion and Reactivity Hazards

Combustible liquid. Can release vapors that form explosive mixtures at temperatures at or above the flash point. Heavy vapors can flow along surfaces to distant ignition sources and flash back.

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use appropriate extinguishing media for combustibles in the area. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.
- Eye Contact: Where eye contact is likely, use chemical splash goggles. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate or Viton), coveralls, socks and chemical-resistant footwear.
- Inhalation: A combination particulate/organic vapor respirator should be used until effective engineering controls are installed to comply with occupational exposure limits, or until exposure limits are established. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with any R, P or HE filter.

Use a self-contained breathing apparatus in cases of emergency spills, when exposure levels are unknown, or under any circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Light golden liquid
- Odor: Aromatic
- Melting Point: Not Applicable
- Boiling Point: Not Available
- Specific Gravity/Density: 1.03 g/ml
- pH: 4.6 (1% solution in deionized H₂O @ 77°F [25°C])

Solubility in H₂O

- Florasulam: 0.121 g/l in pure water @ 68°F (20°C)
- Pinoxaden: 200 mg/l @ 77°F (25°C)

Vapor Pressure

- Florasulam: 7.5 x 10⁽⁻⁸⁾ mmHg
- Pinoxaden: 3.5 x 10⁽⁻⁹⁾ mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

- Stability: Stable under normal use and storage conditions.
- Hazardous Polymerization: Will not occur.
- Conditions to Avoid: None known.
- Materials to Avoid: None known.
- Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

| | | |
|---------------------|--------------------------------|---------------------------|
| Ingestion: | Oral (LD50 Female Rat) : | 3129 mg/kg body weight |
| Dermal: | Dermal (LD50 Rabbit) : | > 5050 mg/kg body weight |
| Inhalation: | Inhalation (LC50 Rat) : | > 2.61 mg/l air - 4 hours |
| Eye Contact: | Moderately Irritating (Rabbit) | |
| Skin Contact: | Slightly Irritating (Rabbit) | |
| Skin Sensitization: | Not a Sensitizer (Guinea Pig) | |

Reproductive/Developmental Effects

Florasulam: Teratology (Birth Defects): Did not cause birth defects or other effects in the fetus even at doses which caused toxic effects to the mother.

Reproductive Effects: Did not interfere with reproduction in laboratory animal studies.

Mutagenicity: In-vitro and animal genetic toxicity studies were negative.

Pinoxaden: Teratogenicity: Not teratogenic in rats or rabbits.

Reproduction: No reproductive effects observed.

Chronic/Subchronic Toxicity Studies

Florasulam: Not Available

Pinoxaden: Subchronic: Predominantly kidney and liver effects at high doses.

Chronic: Predominantly kidney and liver effects at high doses.

Neurotoxicity: No neurotoxic effects (acute or subchronic).

Carcinogenicity

Florasulam: Did not cause cancer in laboratory animals.

Pinoxaden: No compound-related tumors in rats or mice.

Other Toxicity Information

None

Toxicity of Other Components

Cloquintocet-Mexyl (2.25%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the cloquintocet-mexyl in the formulation.

Petroleum Solvent

Inhalation of vapors at high concentrations can cause central nervous system effects (dizziness, headache), irritation to eyes or respiratory tract.

Tetrahydrofurfuryl Alcohol (THFA)

Inhalation of vapors at high concentrations can cause central nervous system effects (dizziness, headache), irritation to eyes or respiratory tract. Chronic overexposure may affect the kidney.

Target Organs

Active Ingredients

Florasulam: Kidney, liver

Pinoxaden: Kidney

Inert Ingredients

Cloquintocet-Mexyl: Not Applicable

Petroleum Solvent: Respiratory tract, stomach, liver, thyroid, urinary bladder, CNS, skin

Tetrahydrofurfuryl Alcohol (THFA): CNS, Kidney

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Pinoxaden:

Fish (Rainbow Trout) 96-hour LC50 10.3 mg/l (Dynamic conditions)

Green Algae 72-hour ErC50 41 mg/l

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 52 mg/l

Florasulam:

Bird (Dietary) LC50 > 5000 ppm

Aquatic Organisms LC50/EC50 0.1 - 1.0 mg/l

Bird LD50 501 - 2000 mg/kg

Environmental Fate

Florasulam:

The information presented here is for the active ingredient, florasulam.

Movement & Partitioning: Bioconcentration potential is low (BCF is less than 100 or log Pow less than 3).

Degradation & Persistence: Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Pinoxaden:

The information presented here is for the active ingredient, pinoxaden.

Compound degrades rapidly in the environment with a DT50 of less than 5 days in field and laboratory studies.

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Ground Transport - NAFTA

Packages <=119 gal.: Not regulated.

Packages > 119 gal.:

Proper Shipping Name: Compounds, Weed Killing, Liquid, (Tetrahydrofurfuryl Alcohol)

Hazard Class: Combustible liquid

Identification Number: NA 1993

Packing Group: PG III

Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Florasulam), Marine Pollutant

Hazard Class: Class 9

Identification Number: UN 3082

Packing Group: PG III

Air Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Florasulam)

Hazard Class: Class 9

Identification Number: UN 3082

Packing Group: PG III

Note: This product is currently not regulated for airfreight within the NAFTA region. However, effective 01/01/2011 the above classification must be used.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Fire Hazard

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

None

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
Flammability: 2
Instability: 0

HMIS Hazard Ratings

Health: 2
Flammability: 2
Reactivity: 0

| | |
|---|----------|
| 0 | Minimal |
| 1 | Slight |
| 2 | Moderate |
| 3 | Serious |
| 4 | Extreme |

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 1/19/2009

Revision Date: 11/5/2010

Replaces: 6/15/2009

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

End of MSDS