

MONSANTO COMPANY, 800 N. Lindbergh Blvd., St. Louis, MO, 63167

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Emergency numbers: FOR CHEMICAL EMERGENCY, SPILL LEAK, FIRE, EXPOSURE, OR ACCIDENT Call CHEMTREC - Day or Night: 1-800-424-9300 toll free in the continental U.S., Puerto Rico, Canada, or Virgin Islands. For calls originating elsewhere: 703-527-3887 (collect calls accepted). FOR MEDICAL EMERGENCY - Day or Night: +1 (314) 694-4000 (collect calls accepted).

1. PRODUCT IDENTIFICATION

Product Name:	Acceleron® IDL-810 Insecticide and Fungicides Seed Treatment			
EPA Signal Word:	Caution			
Active Ingredient(%):	Difenoconazole (1.25%)	CAS No.:	119446-68-3	
Chemical Name:	1H-1,2,4-Triazole, 1-[[2-[2-chloro-4-(4-chlorophenoxy)phenyl]-4-methyl-1,3-dioxolan-2-yl]methyl]-			
Chemical Class:	Triazole Fungicide			
Active Ingredient(%):	Fludioxonil (0.13%)	CAS No.:	131341-86-1	
Chemical Name:	4-(2,2-difluoro-1,3-benzodioxol-4-yl)-1H-pyrrole-3-carbonitrile			
Chemical Class:	Substituted Benzodioxalcarbonitrile Fungicide			
Active Ingredient(%):	Mefenoxam (0.39%)	CAS No.:	70630-17-0 & 69516-34-3	
Chemical Name:	(R,S)-2-[(2,6-dimethylphenyl)-methoxyacetyl-amino]-propionic acid methyl ester			
Chemical Class:	Phenylamide Fungicide			
Active Ingredient(%):	Thiamethoxam (20.7%)	CAS No.:	153719-23-4	
Chemical Name:	4H-1,3,5-Oxadiazin-4-imine,3-[(2-chloro-5-thiazolyl) methyl]tetrahydro-5-methyl-N-nitro-			
Chemical Class:	Neonicotinoid Insecticide			
EPA Registration Number(s):	100-935-524	Section(s) Revised: 2, 3, 8		

2. HAZARDS IDENTIFICATION

Health and Environmental

Harmful if inhaled. May be harmful in contact with skin. Causes mild eye and skin irritation.

Hazardous Decomposition Products

None known.

Physical Properties

Appearance: Light blue liquid

Odor: Paint-like

Unusual Fire, Explosion and Reactivity Hazards

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
Titanium Dioxide	15 mg/m ³ TWA (total)	10 mg/m ³ TWA	Not Established	IARC Group 2B
Glycerin	15 mg/m ³ TWA (total); 5 mg/m ³ TWA (respirable)	10 mg/m ³ TWA (total)	Not Established	No

Difenoconazole (1.25%)	Not Established	Not Established	8 mg/m ³ TWA ***	No
Mefenoxam (0.39%)	Not Established	Not Established	10 mg/m ³ TWA ***	No
Fludioxonil (0.13%)	Not Established	Not Established	10 mg/m ³ TWA ***	No
Thiamethoxam (20.7%)	Not Established	Not Established	3 mg/m ³ TWA ***	No

*** Supplier Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Monsanto(314-694-4000), a poison control center or doctor, or going for treatment.

- Ingestion:** If swallowed: Call Monsanto(314-694-4000), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 314-694-4000 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 Monsanto(314-694-4000), 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 Monsanto(314-694-4000), 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 Monsanto(314-694-4000), 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.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): > 200°F
- Flammable Limits (% in Air): Lower: Not Applicable Upper: Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards

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

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. 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.
- Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, natural rubber, polyethylene, polyvinyl chloride [PVC] or Viton), coveralls, socks and chemical-resistant footwear.
- Inhalation: A respirator is not normally required when handling this substance. Use effective engineering controls to comply with occupational exposure limits.

In case of emergency spills, use a NIOSH certified respirator with any N, R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light blue liquid
Odor:	Paint-like
Melting Point:	Not Applicable
Boiling Point:	Not Available
Specific Gravity/Density:	1.29 g/ml
pH:	6.6 Typical
Solubility in H ₂ O	
Difenoconazole:	15mg/l @ 77°F (25°C)
Fludioxonil:	1.8mg/l @ 77°F (25°C)
Mefenoxam:	26g/l @ 77°F (25°C)
Thiamethoxam:	4.1g/l @ 77°F (25°C)
Vapor Pressure	
Difenoconazole:	2.5 x 10 ⁽⁻¹⁰⁾ mmHg @ 77°F (25°C)
Fludioxonil:	2.9 x 10 ⁽⁻⁹⁾ mmHg @ 77°F (25°C)
Mefenoxam:	2.5 x 10 ⁽⁻⁵⁾ mmHg @ 77°F (25°C)
Thiamethoxam:	2 x 10 ⁽⁻¹¹⁾ mmHg @ 68°F (20°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.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:

Oral (LD50 Rat) : > 5000 mg/kg body weight

Dermal:

Dermal (LD50 Rabbit) : > 2000 mg/kg body weight

Inhalation:

Inhalation (LC50 Rat) : > 2.56 mg/l air - 4 hours

Eye Contact: Minimally Irritating (Rabbit)

Skin Contact: Slightly Irritating (Rabbit)

Skin Sensitization: Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects

Difenoconazole: None observed.

Fludioxonil: Delayed development at doses causing maternal toxicity.

Mefenoxam: None observed.

Thiamethoxam: Developmental: Not teratogenic in rats or rabbits.

Reproductive: No effects on reproduction. Minor increase in a common testis effect in rats at high doses, which did not affect reproduction. When used in accordance with label directions and recommendations in this MSDS, no effects would be expected in humans.

Chronic/Subchronic Toxicity Studies

Difenoconazole: Kidney and liver effects at high doses (>5000 ppm; rats); Eye effects in dogs at high dose levels.

Fludioxonil: Liver and kidney toxicity at high dose levels.

Mefenoxam: Liver effects at high dose animal tests.

Thiamethoxam: Subchronic: Liver effects occurred in rodents only at high dose levels. Not neurotoxic after high acute and subchronic exposure in rats.

Carcinogenicity

Difenoconazole: 2/70 male rats in the highest dose group (20000 ppm) were found to have squamous cell carcinoma in the non-glandular stomach. Effect did not occur in female rats or in mice and not considered relevant to humans.

Increase in brain tumors (mice) at doses exceeding the Maximum Tolerated Dose (MTD) (>2500 ppm).

Fludioxonil: Marginal increase (7%) of liver tumors (female, rats: 3,000 ppm); Within historical control range (1 to 10%).

Mefenoxam: None observed.

Thiamethoxam: Classified as "not likely to be carcinogenic in humans" based on lifetime studies in mice and rats.

Other Toxicity Information

None

Toxicity of Other Components

Glycerin

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

Titanium Dioxide

Titanium dioxide is listed as an IARC Group 2B (Possibly Carcinogenic to Humans).

Prolonged exposure causes respiratory irritation and may lead to pulmonary fibrosis.

Target Organs

Active Ingredients

Difenoconazole: Brain, liver, kidney, gastrointestinal tract

Fludioxonil: Liver, kidney

Mefenoxam: Liver
Thiamethoxam: Liver
Inert Ingredients
Glycerin: Not Applicable
Titanium Dioxide: Lung

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Difenoconazole:

Fish (Rainbow Trout) 96-hour LC50 1.06 ppm
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.77 ppm
Bird (Mallard Duck) 21-day LD50 > 2150 mg/kg

Mefenoxam:

Fish (Rainbow Trout) 96-hour LC50 > 121 ppm
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 113 ppm
Bird (Bobwhite Quail) 14-day LD50 981 mg/kg

Fludioxonil:

Fish (Rainbow Trout) 96-hour LC50 0.47 ppm
Green Algae 5-day EC50 0.087 ppm
Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 0.9 ppm
Bird (Bobwhite Quail) 14-day LD50 > 2000 mg/kg

Thiamethoxam:

Fish (Rainbow Trout) 96-hour LC50 > 100 ppm
Bird (Mallard Duck) LD50 Oral 576 mg/kg
Invertebrate (Daphnia Magna) 48-hour EC50 > 106 ppm
Green Algae 4-day EC50 > 97 ppm

Environmental Fate

Difenoconazole:

The information presented here is for the active ingredient, difenoconazole.
Stable in soil and water. Low to moderate mobility in soil. Sinks in water (after 24 h).

Fludioxonil:

The information presented here is for the active ingredient, fludioxonil.
Does not bioaccumulate. Persistent in soil. Stable in water. Low mobility in soil. Sinks in water (after 24 h).

Mefenoxam:

The information presented here is for the active ingredient, mefenoxam.
Does not bioaccumulate. Not persistent in soil or water. Moderate mobility in soil. Mixes/sinks (after 24 h).

Thiamethoxam:

The information presented here is for the active ingredient, thiamethoxam.
Not persistent in soil. Stable in water. Moderate mobility in soil. Floats in water (after 24 h).

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
Not regulated.

B/L Freight Classification

Insecticide/Fungicide, NOI, Not Regulated

Comments

None.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: Not Applicable

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

Not Applicable

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 1
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 1
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

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End of MSDS