

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: **DISCOVER HERBICIDE** Product No.: A8588C
 EPA Signal Word: Warning
 Active Ingredient(%): Clodinafop-Propargyl (22.3%) CAS No.: 105512-06-9
 Chemical Name: Propanoic acid, 2-[4-[(5-chloro-3-fluoro-2-pyridinyl)oxy]-phenoxy]-2-propynyl ester
 Chemical Class: Carboxylic Acid Derivative Herbicide
 EPA Registration Number(s): 100-907 **Section(s) Revised: 2, 3, 4, 8, 11**

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
n-Methylpyrrolidone (<= 9%)	Not Established	Not Established	10 ppm TWA****	No
Petroleum Solvent	Not Established	Not Established	100 mg/m ³ (15 ppm) TWA *	No
Cloquintocet-Mexyl	Not Established	Not Established	10 mg/m ³ TWA****	No
Naphthalene (<= 6%)	10 ppm TWA	10 ppm TWA (skin)	10 ppm TWA**	See "Toxicity", Sec. 11
Clodinafop-Propargyl (22.3%)	Not Established	Not Established	1.0 mg/m ³ TWA ***	No

* recommended by manufacturer

** recommended by NIOSH

*** 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: C, S

3. HAZARDS IDENTIFICATION
Symptoms of Acute Exposure

Causes eye, skin and respiratory passage irritation. May cause sensitization by skin contact.

Exposure to high vapor levels may cause headache, dizziness, numbness, nausea, incoordination, or other central nervous system effects.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Light to dark brown liquid

Odor: Aromatic solvent

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.

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.

Persons suffering a temporary allergic reaction may respond to treatment with antihistamines or steroid creams and/or systemic steroids.

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): 143.6°F
- Flammable Limits (% in Air): Lower: 1.0% Upper: 7.0%
- Autoignition Temperature: 950 °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, PACKAGING AND USE 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 (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
- 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 approved respirator with any R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance: Light to dark brown liquid
- Odor: Aromatic solvent
- Melting Point: Not Applicable
- Boiling Point: 351 - 410°F
- Specific Gravity/Density: 1.06 g/cm³
- pH: 4 - 7 (1% solution in H₂O)

Solubility in H₂O

Clodinafop-Propargyl: 4 mg/l @ 77°F (25°C)

Vapor Pressure

Clodinafop-Propargyl: 4.0 x 10⁽⁻⁸⁾ 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: Ignition sources.
Temperatures below 2°F (-17°C) or above 144°F (62°C).
- Materials to Avoid: Strong oxidizers, strong acids, alkalies.
- Hazardous Decomposition Products: Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

- Ingestion: Slightly Toxic
Oral (LD50 Rat) : > 2,276 mg/kg body weight
- Dermal: Slightly Toxic
Dermal (LD50 Rat) : > 4,000 mg/kg body weight
- Inhalation: Practically Non-Toxic
Inhalation (LC50 Rat) : > 3.5 mg/l air - 4 hours
- Eye Contact: Moderately Irritating (Rabbit)
- Skin Contact: Moderately Irritating (Rabbit)
- Skin Sensitization: Sensitizing (Guinea Pig)

Reproductive/Developmental Effects

Clodinafop-Propargyl: None observed.

Chronic/Subchronic Toxicity Studies

Clodinafop-Propargyl: Liver changes, anemia and skin reactions.

Carcinogenicity

Clodinafop-Propargyl: Increased incidences of benign tumors in mice (liver) and rats (ovary, prostate).

Other Toxicity Information

None

Toxicity of Other Components

Cloquintocet-Mexyl

Causes mild eye and skin irritation. Toxic if inhaled or swallowed. May cause sensitization by skin contact.

Naphthalene (<= 6%)

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

Chronic overexposure to naphthalene can affect the liver, kidney, respiratory tract and blood.

Carcinogen Status:

NTP: Anticipated Carcinogen

IARC: Group 2B Possible Human Carcinogen

Petroleum Solvent

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

n-Methylpyrrolidone (<= 9%)

May cause respiratory tract irritation. Repeated or prolonged exposure may cause drying and cracking of the skin.

Target Organs

Active Ingredients

Clodinafop-Propargyl: Liver, skin, bone marrow

Inert Ingredients

Cloquintocet-Mexyl: Eye, skin, lung, digestive tract

Naphthalene: Liver, kidney, respiratory tract, blood

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

n-Methylpyrrolidone: Eye, skin

12. ECOLOGICAL INFORMATION

Summary of Effects

Clodinafop-Propargyl:

Highly toxic to fish. Low toxicity to birds. Practically non-toxic to bees.

Eco-Acute Toxicity

Clodinafop-Propargyl: Bees LC50/EC50 > 100 ug/bee
Invertebrates (Water Flea) LC50/EC50 > 2.0 ppm
Fish (Trout) LC50/EC50 0.39 ppm
Fish (Bluegill) LC50/EC50 0.21 ppm
Birds (8-day dietary - Bobwhite Quail) LC50/EC50 > 5,200 ppm
Birds (8-day dietary - Mallard Duck) LC50/EC50 > 5,200 ppm

Eco-Chronic Toxicity

Clodinafop-Propargyl: Daphnia magna 21 days EC50 0.43 mg/l
Rainbow Trout 21 days NOEC 0.12 mg/l

Environmental Fate

Clodinafop-Propargyl:

The information presented here is for the active ingredient, clodinafop-propargyl.

Low bioaccumulation potential. Not persistent in soil or water. Low to moderate mobility in soil. Sinks 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

Surface Transportation:

Non-Bulk Containers (<= 119 gal. cap.): Not regulated by DOT.

Bulk Containers (> 119 gal. cap.): RQ Combustible Liquid, N.O.S. (naphthalene), 9, NA1993, PGIII, Marine Pollutant

Air Transportation:

Domestic and international: Not regulated.

B/L Freight Classification

Herbicides, NOI (NMC Class 60)

Comments

International Transportation
(Water): Not regulated.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

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

Section 313 Toxic Chemicals: n-Methylpyrrolidone (<= 9%) (CAS No. 872-50-4)
Naphthalene (<= 6%) (CAS No. 91-20-3)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

Report product spills > 140 gal. (based on naphthalene [RQ = 100 lbs.] content in the formulation)

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: 05/08/2000

Revision Date: 11/16/2005

Replaces: 02/09/2004

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.

RSVP# : SCP-955-00232E

End of MSDS