

**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, 5**

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

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

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:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection.

## 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/cm <sup>3</sup>
pH:	4 - 7 (1% solution in H <sub>2</sub> O)

### Solubility in H<sub>2</sub>O

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

### Vapor Pressure

Clodinafop-Propargyl: 4.0 x 10<sup>(-8)</sup> 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:	<u>Slightly Toxic</u>
	Oral (LD50 Rat) : > 2,276 mg/kg body weight
Dermal:	<u>Slightly Toxic</u>
	Dermal (LD50 Rat) : > 4,000 mg/kg body weight
Inhalation:	<u>Slightly Toxic</u>
	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. Allergic skin reactions are possible.

#### Naphthalene (<= 6%)

Exposure to naphthalene can cause cataracts, liver damage, kidney failure, respiratory failure, hematuria, anemia, damage to red blood cells, leukocytosis, or coma.

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: Eye, liver, kidney, respiratory tract, blood, CNS

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-

Bees LC50/EC50 > 100 ug/bee

Propargyl:

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-

Daphnia magna 21 days EC50 0.43 mg/l

Propargyl:

Rainbow Trout 21 days NOEC 0.12 mg/l

Environmental Fate

Clodinafop-Propargyl:

No data available for the formulation. 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, NOIBN

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

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: 02/09/2004

Replaces: 12/18/2002

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-955-00232D

End of MSDS