

OBSERVE

Date: 6/17/2015
Replaces: 6/14/2012

1. PRODUCT IDENTIFICATION

Product identifier on label: **OBSERVE**
Product No.: A12936C
Use: Herbicide
Manufacturer: Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro NC 27419
Manufacturer Phone: 1-800-334-9481

Emergency Phone: 1-800-888-8372

2. HAZARDS IDENTIFICATION

Classifications: Specific Target Organ Toxicity: Repeated Category 2
Flammable Liquid: Category 4
Signal Word (OSHA): Warning
Hazard Statements: Combustible liquid
May cause respiratory irritation
May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Keep away from heat, sparks, open flames, hot surfaces. No smoking.
Do not breathe mist, vapors, spray.
Wear protective gloves, protective clothing, eye protection.
In case of fire: Use dry chemical, foam or CO2 for extinction.
Store in a well-ventilated place. Keep cool.
Dispose of contents and container in accordance with local regulations.

Other Hazard Statements: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Common Name	CAS Number	Concentration
1,2-Propanediol	Propylene Glycol	57-55-6	Trade Secret
Acetophenone	Acetophenone	98-86-2	<10%

OBSERVE

Date: 6/17/2015

Replaces: 6/14/2012

Acetate Ester	Acetate Ester	Trade Secret	Trade Secret
Cloquintocet-Mexyl	Cloquintocet-Mexyl	99607-70-2	Trade Secret
Propanoic acid, 2-[4-[(5-chloro-3-fluoro-2-pyridinyl)oxy]-phenoxy]-2-propynyl ester	Clodinafop-Propargyl	105512-06-9	6.4%

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

4. FIRST AID MEASURES

Have the product container, label or 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.

Most important symptoms/effects:

Not Applicable

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

Use dry chemical, foam or CO2 extinguishing media. If water is used to fight fire, dike and collect runoff.

Specific 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.

Special protective equipment and precautions for firefighters:

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

Follow exposure controls/personal protection outlined in Section 8.

Methods and materials for containment and cleaning up:

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

OBSERVE

Date: 6/17/2015

Replaces: 6/14/2012

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

Precautions for safe handling:

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.

Conditions for safe storage, including any incompatibilities:

Not Applicable

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.

Occupational Exposure Limits:

Chemical Name	OSHA PEL	ACGIH TLV	Other	Source
Propylene Glycol	Not Established	Not Established	10 mg/m ³ TWA	AIHA
Acetophenone	Not Established	10 ppm TWA	Not Established	Not Applicable
Acetate Ester	Not Established	Not Established	50 ppm TWA	Manufacturer
Cloquintocet-Mexyl	Not Established	Not Established	5 mg/m ³ TWA	Syngenta
Clodinafop-Propargyl	Not Established	Not Established	1.0 mg/m ³ TWA	Manufacturer

Appropriate engineering controls:

Use effective engineering controls to comply with occupational exposure limits (if applicable).

Individual protection measures:

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 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 certified respirator with an organic vapor (OV) cartridge or canister with any R, P or HE filter.

OBSERVE

Date: 6/17/2015

Replaces: 6/14/2012

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 brown liquid

Odor: Sweet aromatic

Odor Threshold: Not Available

pH: 5 - 7 (1% solution in H₂O @ 77°F (25°C))

Melting point/freezing point: Not Available

Initial boiling point and boiling range: Not Available

Flash Point (Test Method): 185°F

Flammable Limits (% in Air): Not Available

Flammability: Combustible liquid

Vapor Pressure: Clodinafop-Propargyl 4.0 x 10⁻⁸ mmHg @ 68°F (20°C)

Vapor Density: Not Available

Relative Density: 7.86 lbs/gal (typical) @ 68°F (20°C)

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

Partition coefficient: n-octanol/water: Not Available

Autoignition Temperature: Not Available

Decomposition Temperature: Not Available

Viscosity: Not Available

Other: Not Available

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable under normal use and storage conditions.

Possibility of hazardous reactions: Will not occur.

Conditions to Avoid: None known.

Incompatible materials: None known.

Hazardous Decomposition Products: None known.

11. TOXICOLOGICAL INFORMATIONHealth effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Skin irritation

Delayed, immediate and chronic effects of exposure: Skin irritation

OBSERVE

Date: 6/17/2015

Replaces: 6/14/2012

Numerical measures of toxicity (acute toxicity/irritation studies (finished product))

Ingestion: Oral (LD50 Female Rat) : > 5000 mg/kg body weight
Dermal: Dermal (LD50 Rat) : > 5000 mg/kg body weight
Inhalation: Inhalation (LC50 Rat) : > 5.57 mg/l air - 4 hours
Eye Contact: Slightly Irritating (Rabbit)
Skin Contact: Mildly Irritating (Rabbit)
Skin Sensitization: Not a Sensitizer (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).

Chemical Name	NTP/IARC/OSHA Carcinogen
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1,2-Propanediol	No
Acetophenone	No
Acetate Ester	No
Cloquintocet-Mexyl	No
Propanoic acid, 2-[4-[(5-chloro-3-fluoro-2-pyridinyl)oxy]-phenoxy]-2-propynyl ester	No

Other Toxicity Information

None

Toxicity of Other Components

Acetate Ester

Slightly irritating to the eyes, but does not injure eye tissue. Frequent or prolonged skin contact may irritate and cause dermatitis. Occasional brief contact with the liquid will not result in significant irritation unless evaporation is impeded. Inhalation of vapor concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Small amounts of the liquid aspirated into the respiratory system during injection, or from vomiting, may cause bronchiopneumonia or pulmonary edema.

Acetophenone

Exposure causes severe eye and skin irritation. Prolonged contact may cause defatting of the skin and dermatitis or burns. Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, unconsciousness and coma. May cause irritation of the respiratory tract with burning, pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Ingestion may cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Cloquintocet-Mexyl

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

OBSERVE

Date: 6/17/2015

Replaces: 6/14/2012

Propylene Glycol

Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea. Also, eye irritation may occur with lacrimation but no residual discomfort or injury. Prolonged contact to skin may cause mild to moderate irritation and possible allergic reactions. Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs**Active Ingredients**

Clodinafop-Propargyl: Liver, skin, bone marrow

Inert Ingredients

Acetate Ester: Eye, skin, respiratory tract, CNS

Acetophenone: CNS, skin, eye

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

Propylene Glycol: CNS, kidney, liver

12. ECOLOGICAL INFORMATION**Eco-Acute Toxicity****Clodinafop-Propargyl:**

Fish (Bluegill Sunfish) 96-hour LC50 0.24 ppm

Green Algae 5-day EC50 > 3.9 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 2.0 ppm

Bird (Bobwhite Quail) 14-day LD50 1455 mg/kg

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: Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION**DOT Classification**

Ground Transport - NAFTA

Non-Bulk Containers (< 119 gal): Not regulated.

Bulk Containers (> 119 gal):

Proper Shipping Name: Compounds, Weed Killing, Liquid (Acetophenone)

Hazard Class: Class 3

Identification Number: NA 1993

Packing Group: PG III

OBSERVE

Date: 6/17/2015
Replaces: 6/14/2012

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Clodinafop-Propargyl, Cloquintocet-Mexyl), Marine Pollutant
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

Air Transport
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Clodinafop-Propargyl, Cloquintocet-Mexyl)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

15. REGULATORY INFORMATION

Pesticide Registration:

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

Caution: Harmful if absorbed through skin. Harmful if inhaled. Avoid breathing dust. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing. Wear long-sleeved shirt and long pants, socks and shoes and chemical-resistant gloves made of any waterproof material. Remove and wash contaminated clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

EPA Registration Number(s):

100-1173

EPCRA SARA Title III Classification:

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

Section 313 Toxic Chemicals: Acetophenone <10% (CAS No. 98-86-2)

CERCLA/SARA 304 Reportable Quantity (RQ):

Report product spills > 8,000 gal. (based on acetophenone [RQ = 5,000 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261):

Under certain circumstances, discarded product may exhibit TCLP hazardous characteristics. A hazardous waste determination should be done on a case by case basis.

TSCA Status:

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

OBSERVE

Date: 6/17/2015

Replaces: 6/14/2012

NFPA Hazard Ratings

Health: 1
Flammability: 2
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 2
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme
*	Chronic

Syngenta Hazard Category: B

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 6/14/2012

Revision Date: 6/17/2015

Replaces: 6/14/2012

Section(s) Revised: 2, 4, 7, 11

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.