

## MANUSCRIPT

Date: 8/20/2018  
 Replaces: 6/12/2018

### 1. PRODUCT IDENTIFICATION

Product identifier on label: **MANUSCRIPT**  
 Product No.: A13617V  
 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: Skin Corrosion/Irritation: Category 2  
 Carcinogenicity: Category 2  
 Specific Target Organ Toxicity: Repeated Category 2  
 Aspiration Hazard: Category 1  
 Flammable Liquid: Category 4  
 Eye Damage/Irritation: Category 2B  
 Reproductive Toxicity: Category 1B

Signal Word (OSHA): Danger

Hazard Statements: Combustible liquid  
 May be fatal if swallowed and enters airways  
 Causes skin irritation  
 Causes eye irritation  
 Suspected of causing cancer  
 May damage fertility or the unborn child  
 May cause damage to organs through prolonged or repeated exposure

Hazard Symbols:



Precautionary Statements: Do not breathe mist, vapors, spray.  
 Get medical advice if you feel unwell.  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Keep away from heat, sparks, open flames, hot surfaces. No smoking.  
 Wash hands and face thoroughly after handling.

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Wear protective gloves, protective clothing, eye protection.  
If swallowed: Immediately call a poison center, doctor or Syngenta.  
If on skin: Wash with plenty of soap and water.  
If skin irritation occurs: Get medical advice.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice.  
If exposed or concerned: Get medical advice/attention.  
See Section 4 First Aid Measures.  
Do NOT induce vomiting.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use dry chemical, foam or CO<sub>2</sub> for extinction.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
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
Naphthalene	Naphthalene	91-20-3	<3%
Tetrahydrofurfuryl Alcohol	Tetrahydrofurfuryl Alcohol	97-99-4	<19%
Isobutanol	Isobutanol	78-83-1	<2%
Petroleum Solvent	Petroleum Solvent	Trade Secret	<35%
Cloquintocet-Mexyl	Cloquintocet-Mexyl	99607-70-2	<2%
Surfactant	Surfactant	26264-06-2	<3%
naphthalene, 1-methyl-	naphthalene, 1-methyl-	Trade Secret	<9%
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	Pinoxaden	243973-20-8	5.05%

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.

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**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:

Eye irritation

Skin irritation

Indication of immediate medical attention and special treatment needed:

There is no specific antidote if this product is ingested.

Treat symptomatically.

Contains petroleum distillate - vomiting may cause aspiration pneumonia.

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### 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.

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### 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 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.

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### 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:

Store locked up.

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## 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
Naphthalene	10 ppm TWA	10 ppm TWA (skin)	10 ppm TWA	NIOSH
Tetrahydrofurfuryl Alcohol	Not Established	Not Established	0.5 ppm TWA	AIHA
Isobutanol	100 ppm TWA	50 ppm TWA	50 ppm TWA	Manufacturer
Petroleum Solvent	Not Established	Not Established	50 mg/m <sup>3</sup> (8 ppm) TWA	Manufacturer
Cloquintocet-Mexyl	Not Established	Not Established	5 mg/m <sup>3</sup> TWA	Syngenta
Surfactant	Not Established	Not Established	Not Established	Not Applicable
naphthalene, 1-methyl-	Not Established	Not Established	Not Established	Not Applicable
Pinoxaden	Not Established	Not Established	0.1 mg/m <sup>3</sup> (ceiling)	Syngenta

### 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, nitrile rubber, neoprene rubber 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.

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: Yellow orange to orange brown liquid

Odor: Aromatic

Odor Threshold: Not Available

pH: 3 - 7 @ 1% w/v

Melting point/freezing point: Not Applicable

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Initial boiling point and boiling range: Not Available  
Flash Point (Test Method): 174°F  
Flammable Limits (% in Air): Not Available  
Flammability: Combustible liquid  
Vapor Pressure: Pinoxaden 3.5 x 10(-9) mmHg @ 77°F (25°C)  
Vapor Density: Not Available  
Relative Density: 0.989 g/ml @ 68°F (20°C)  
Solubility (ies): Pinoxaden 200 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: None

**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 INFORMATION**Health effects information

Likely routes of exposure: Dermal, Inhalation

Symptoms of exposure: Eye irritation, Skin irritation

Delayed, immediate and chronic effects of exposure: Developmental toxicity, Possible carcinogenicity, Eye irritation, Skin irritation

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) :	> 2.53 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Severely Irritating (Rabbit)	

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Skin Sensitization: Not a Sensitizer (Guinea Pig)

### Reproductive/Developmental Effects

Pinoxaden: Teratogenicity: Not teratogenic in rats or rabbits.  
Reproduction: No reproductive effects observed.

### Chronic/Subchronic Toxicity Studies

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

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

Chemical Name	NTP/IARC/OSHA Carcinogen
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Naphthalene	See "Toxicity", Sec. 11
Tetrahydrofurfuryl Alcohol	No
Isobutanol	No
Petroleum Solvent	No
Cloquintocet-Mexyl	No
Surfactant	No
naphthalene, 1-methyl-	No
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	No

### 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.

#### Isobutanol

High concentrations may result in dizziness, confusion and signs of intoxication. May cause irritation to eye, skin or mucous membranes.

#### Naphthalene

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

Repeated exposure may cause skin dryness or cracking. If swallowed, may be aspirated and cause lung damage. May be irritating to the eyes, nose, throat and lungs.  
Breathing of high vapor concentrations may cause central nervous system (CNS) depression resulting in dizziness, light-headedness, headache, nausea and loss of coordination.

#### Surfactant

May cause irritation to the eyes, skin and respiratory system. May be harmful if swallowed. May cause severe irritation or burns to the eyes.

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## Tetrahydrofurfuryl Alcohol

Acute exposure causes slight irritation of the skin. Prolonged exposure may cause mild nervous system effects, liver and kidney damage.

## naphthalene, 1-methyl-

Inhalation may result in irritation to respiratory tract.

### Target Organs

#### Active Ingredients

Pinoxaden: Kidney

#### Inert Ingredients

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

Isobutanol: CNS, skin, eye

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

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

Surfactant: Eye, skin, respiratory system

Tetrahydrofurfuryl Alcohol: Skin, central nervous system, liver, kidney

naphthalene, 1-methyl-: Not Applicable

## 12. ECOLOGICAL INFORMATION

### Eco-Acute Toxicity

#### 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

### Environmental Fate

#### 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

< 119 gal: Not regulated

> 119 gal:

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

Hazard Class: Combustible liquid

Identification Number: NA 1993

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Packing Group: PG III  
RQ > 375 gallons (for naphthalene)

### Comments

Water Transport - International

Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Cloquintocet-Mexyl, Naphthalene), 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. (Cloquintocet-Mexyl, Naphthalene)

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:

Not Applicable: Causes skin irritation. Do not get on skin or clothing. Causes moderate eye irritation. Avoid contact with eyes or clothing. Harmful if swallowed or inhaled. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.

### EPA Registration Number(s):

100-1626

### EPCRA SARA Title III Classification:

Section 311/312 Hazard Classes: See Section 2 Hazards

Section 313 Toxic Chemicals: Naphthalene <3% (CAS No. 91-20-3)

### CERCLA/SARA 304 Reportable Quantity (RQ):

Report product spills > 375 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



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### 16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 3  
 Flammability: 2  
 Instability: 0

HMIS Hazard Ratings

Health: 3  
 Flammability: 2  
 Reactivity: 0

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

Syngenta Hazard Category: E,S

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 6/16/2017

Revision Date: 8/20/2018

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Section(s) Revised: 15

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.