MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **PRIMO** Product No.: A8981A

EPA Signal Word: Warning

Active Ingredient(%): Trinexapac-Ethyl (12.0%) CAS No.: 95266-40-3

Chemical Name: 4-(Cyclopropyl-a-hydroxymethylene)-3,5-dioxo-cyclohexanecarboxylic acid ethylester

Chemical Class: Cyclopropyl Derivative of Cyclohexenone Plant Growth Inhibitor

EPA Registration Number(s): 100-729 **Section(s) Revised: 2, 9**

2. HAZARDS IDENTIFICATION

Health and Environmental

Harmful if inhaled. Causes eye and skin irritation.
May cause drowsiness or dizziness. May be harmful if swallowed and enters airway.

Combustible liquid.

Hazardous Decomposition Products

Not Available

Physical Properties

Appearance: Amber liquid

Odor: Aromatic

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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Mineral Oil	Not Established	5 mg/m³ TWA	Not Established	No
Petroleum Solvent	Not Established	Not Established	50 mg/m³ (8 ppm) TWA *	No
Propylene Glycol	Not Established	Not Established	10 mg/m³ TWA ****	No
1,2,4-Trimethylbenzene (< 10%)	Not Established	25 ppm TWA	25 ppm TWA **	No
Naphthalene (< 15%)	10 ppm TWA	10 ppm TWA (skin)	10 ppm TWA **	See "Toxicity", Sec. 11
Trinexapac-Ethyl (12.0%)	Not Established	Not Established	10 mg/m³ 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: B, S

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol 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

Not Available

5. FIRE FIGHTING MEASURES

Fire and Explosion

Flash Point (Test Method):	185°F (Closed Cup)	
Flammable Limits (% in Air):	Lower: 0.6%	Upper: 7.0%
Autoignition Temperature:	Not Available	
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 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. 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 gloves (such as barrier laminate 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 approved respirator with any R, P or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber liquid
Odor:	Aromatic
Melting Point:	Not Available
Boiling Point:	Not Available
Specific Gravity/Density:	0.9868 - 1.0068 g/ml ; 8.31 lbs/gal
pH:	3 - 5 (1% solution in H2O @ 77°F (25°C))

Solubility in H2O

Trinexapac-Ethyl: 10.2 g/l @ 77°F (25°C)

Vapor Pressure

Trinexapac-Ethyl: 1.6 x 10(-5) mmHg @ 77°F (25°C)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Not Available
Materials to Avoid:	Not Available
Hazardous Decomposition Products:	Not Available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:

Oral (LD50 Rat) : 5130 mg/kg body weight

Dermal:		
	Dermal (LD50 Rabbit) :	> 2020 mg/kg body weight
Inhalation:		
	Inhalation (LC50 Rat) :	> 2.7 mg/l air - 4 hours
Eye Contact:	Moderately Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Trinexapac-Ethyl: None observed.

Chronic/Subchronic Toxicity Studies

Trinexapac-Ethyl: Liver, kidney and brain (dogs) effects at high doses (>5000 ppm).

Carcinogenicity

Trinexapac-Ethyl: Slight increase in forestomach tumors in male rats at high doses (20000 mg/kg/day). Not applicable to humans.

Other Toxicity Information

None

Toxicity of Other Components

1,2,4-Trimethylbenzene (< 10%)

Test results reported in Section 11 for the final product take into account any acute hazards related to the 1,2,4-trimethylbenzene in the formulation.

Mineral Oil

May cause respiratory irritation when inhaled as a mist.

Naphthalene (< 15%)

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

Repeated exposure may case 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.

Propylene Glycol

Test results reported in Section 11 for the final product take into account any acute hazards related to the propylene glycol in the formulation.
Reported to cause central nervous system depression (anesthesia, dizziness, confusion), headache and nausea.
Chronic dietary exposure caused kidney and liver injury in experimental animals.

Target Organs

Active Ingredients

Trinexapac-Ethyl: Liver, kidney, brain

Inert Ingredients

1,2,4-Trimethylbenzene: Not Applicable

Mineral Oil: Respiratory tract

Naphthalene: Liver, kidney, respiratory tract, blood

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

Propylene Glycol: CNS, kidney, liver

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects

Trinexapac-Ethyl:

Fish (Rainbow Trout) 96-hour LC50 65.7 ppm

Green Algae 5-day EC50 < 1.4 ppm

Invertebrate (Water Flea) Daphnia Magna 48-hour EC50 > 142.5 ppm

Bird (Mallard Duck) 14-day LD50 > 2000 mg/kg

Environmental Fate

Trinexapac-Ethyl:

The information presented here is for the active ingredient, trinexapac-ethyl.
Low bioaccumulation potential. Not persistent in soil or water. 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

Ground Transport - NAFTA
Containers < 119 gallons cap.: Not regulated
Containers > 119 gallons cap.:
Proper Shipping Name: RQ, Combustible Liquid, N.O.S. (Naphthalene)
Hazard Class: Combustible Liquid
Identification Number: NA 1993
Packing Group: PG III

Comments

Water Transport - International
Proper Shipping Name: Environmentally Hazardous Substance, Liquid, N.O.S. (Trinexapac-Ethyl), 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. (Trinexapac-Ethyl)
Hazard Class: Class 9
Identification Number: UN 3082
Packing Group: PG III

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

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

Section 313 Toxic Chemicals: 1,2,4-Trimethylbenzene (< 10%) (CAS No. 95-63-6)
Naphthalene (< 15%) (CAS No. 91-20-3)

California Proposition 65
Not Applicable

CERCLA/SARA 304 Reportable Quantity (RQ)
Report spills > 125 gal. (based on naphthalene [RQ= 100 lbs] content in formulation).

RCRA Hazardous Waste Classification (40 CFR 261)
Not Applicable

TSCA Status
Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings		HMIS Hazard Ratings	
Health:	2	Health:	1
Flammability:	2	Flammability:	2
Instability:	0	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: 2/9/1993
Revision Date: 1/22/2013 Replaces: 6/8/2011

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.

End of MSDS