

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: **ALTO 100 SL** Product No.: A9898A
 EPA Signal Word: Caution
 Active Ingredient(%): Cyproconazole (8.9%) CAS No.: 94361-06-5 & 94361-07-6
 Chemical Name: [Alpha-(4-Chlorophenyl)-alpha-(1-cyclopropylethyl)-1H-1,2,4-triazole-1-ethanol]
 Chemical Class: Triazol Derivative Fungicide
 EPA Registration Number(s): 100-1226 **Section(s) Revised: 1, 2, 8**

2. HAZARDS IDENTIFICATION
Health and Environmental

May be harmful if swallowed or in contact with skin. May cause respiratory tract irritation.

Hazardous Decomposition Products

May decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Yellow to brown liquid

Odor: Weak

Unusual Fire, Explosion and Reactivity Hazards

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
n-Methylpyrrolidone (<= 10%)	Not Established	Not Established	10 ppm TWA ****	No
Cyproconazole (8.9%)	Not Established	Not Established	0.5 mg/m ³ TWA ***	No

*** 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: D

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. Have the person sip a glass of water if able to swallow. 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.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): 268°F
- Flammable Limits (% in Air): Lower: Not Applicable Upper: Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Not Applicable

Unusual Fire, Explosion and Reactivity Hazards

During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. 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 in Protective Equipment Section. 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.

Skin Contact: Where contact is likely, wear chemical-resistant gloves (such as barrier laminate or butyl rubber), coveralls, socks and chemical-resistant footwear.

Inhalation: A combination particulate/ organic vapor respirator may be necessary until effective engineering controls are installed to comply with occupational exposure limits. Use a NIOSH approved respirator with an organic vapor (OV) cartridge or canister with an HE prefilter.

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 to brown liquid
Odor: Weak
Melting Point: Not Applicable
Boiling Point: Not Available
Specific Gravity/Density: 1.10 - 1.14 g/cm³ @ 68°F (20°C)
pH: 2 - 6 (1% in deionized water)

Solubility in H₂O

Cyproconazole: 360g/l @ 77°F (25°C)

Vapor Pressure

Cyproconazole: 2.25 x 10⁽⁻⁷⁾ 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: None known.
Materials to Avoid: None known.
Hazardous Decomposition Products: May decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:
Oral (LD50 Rat) : > 2000 mg/kg body weight

Dermal:
Dermal (LD50 Rat) : > 4000 mg/kg body weight

Inhalation:
Inhalation (LC50 Rat) : > 5.0 mg/l air - 4 hours

Eye Contact: Non-Irritating (Rabbit)
Skin Contact: Non-Irritating (Rabbit)
Skin Sensitization: Not a Sensitizer (Guinea Pig)

Reproductive/Developmental Effects

Cyproconazole: Maternal and fetal toxicity were observed at high dose levels (rats).

Chronic/Subchronic Toxicity Studies

Cyproconazole: Liver enlargements and decreased body weight (mice). Liver damage in rats and dogs.

Carcinogenicity

Cyproconazole: Liver tumors (mice only).

Other Toxicity Information

There are indications of developmental toxic effects from reproduction studies with cyproconazole.

Toxicity of Other Components

n-Methylpyrrolidone (<= 10%)

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

Target Organs

Active Ingredients

Cyproconazole: Liver

Inert Ingredients

n-Methylpyrrolidone: Eye, skin

12. ECOLOGICAL INFORMATION

Summary of Effects

Cyproconazole:

Very toxic to aquatic life.

Ecotoxicity Effects

Cyproconazole:

Fish (Rainbow Trout) 96-hour LC50 19 ppm

Green Algae 5-day EC50 0.026 ppm

Invertebrate (Water Flea) Daphnia magna 48-hour EC50 26 ppm

Bird (Bobwhite Quail) 14-day LD50 150 mg/kg

Environmental Fate

Cyproconazole:

The information presented here is for the active ingredient, cyproconazole.

Low bioaccumulation potential. Stable in soil and water. Low to moderate mobility in soil. Floats 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

Not regulated.

Air Transport - NAFTA

Not regulated.

B/L Freight Classification

Fungicides, NOIBN

Comments

Water Transport - International

Not regulated.

Air Transport - International

Not regulated.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard

Section 313 Toxic Chemicals: n-Methylpyrrolidone (<= 10%) (CAS No. 872-50-4)

California Proposition 65

WARNING: This product contains a chemical (n-Methylpyrrolidone) known to the State of California to cause cancer and birth defects or other reproductive harm.

CERCLA/SARA 302 Reportable Quantity (RQ)

None

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: 1
Instability: 0

HMIS Hazard Ratings

Health: 2
Flammability: 1
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: 4/7/2006

Revision Date: 5/30/2008

Replaces: 4/20/2006

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