

SAFETY DATA SHEET

Section 1: IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND SUPPLIER

Product Name:	ALTO[®] 100 SL
Design Code:	A9898A
Recommended Use:	For the control of diseases in cereals, turf, fruit and vegetable crops.
Company Details:	Syngenta Crop Protection Limited
Address:	Tower II, Level 7, 110 Symonds Street Private Bag 92618, Symonds Street AUCKLAND NEW ZEALAND
Telephone number:	(weekdays) 09 - 306 1500
Emergency Telephone number:	(24 Hours) 0800 734 607
National Poisons & Hazchem Information Centre :	0800 POISON (0800 764 766)
Date of Preparation:	6 March, 2013

Section 2: HAZARDS IDENTIFICATION

Hazard classification:	6.4A, 6.8A, 6.9B, 9.1A, 9.3C
Priority Identifier:	WARNING KEEP OUT OF REACH OF CHILDREN
Secondary Identifiers:	6.4A = May cause eye irritation 6.8A = May cause reproductive / development damage from repeated oral exposure 6.9B = May cause liver damage from repeated oral exposure at high doses. 9.1A = Very toxic to aquatic organisms. 9.3C = Harmful to terrestrial vertebrates.

Section 3: COMPOSITION / INFORMATION ON INGREDIENTS

<i>Pure Substance:</i>	
Chemical Identity of pure substance:	[Alpha-(4-Chlorophenyl)-alpha-(1-cyclopropylethyl)-1H-1,2,4-triazole 1-ethanol
Common Name:	Cyproconazole
CAS number:	94361-06-5 and 94361-07-6

<i>Mixture:</i>		
Chemical Identity of ingredients:		
Ingredient	CAS no.	Content (% w/v)
Cyproconazole (technical grade)	94361-06-5 and 94361-07-6	8.9
N-methylpyrrolidone	872-50-4	<10%
poly(oxy-1,2-ethane diyl) alpha-(nonylphenyl)-omega-hydroxy-,phosphate	51811-79-1	<10%
other ingredients determined not to be hazardous	-	to 100%

NOTE : only hazardous components need to be listed.

Section 4: FIRST AID MEASURES

Necessary First Aid measures:	For advice contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth to nose rather than mouth to mouth. Obtain medical attention.
	Swallowed: If swallowed DO NOT induce vomiting.
	Eye: If concentrate or spray solution enters the eyes wash it out immediately with water. Remove contact lenses.
	Skin: If skin contact occurs remove contaminated clothing and wash affected areas thoroughly with running water.
	Inhaled: If inhaled move the victim to fresh air immediately
Poisoning symptoms:	No case of human poisoning due to this product is on record. The poisoning symptoms observed for laboratory mammals were non-specific.
Workplace facilities:	No specific facilities required. Standard emergency equipment must be available.
Hygiene Practices:	Avoid contact with skin and eyes and inhalation of concentrate or spray mist. When mixing or applying, wear protective clothing, including face shield, impervious gloves and footwear. If clothing becomes contaminated with product, remove clothing immediately. DO NOT eat, drink or smoke while using. Wash hands and exposed skin thoroughly with soap and water before meals and after work. Wash protective clothing daily after work.
Notes for Medical Personnel:	No specific antidote is available. If poisoning is suspected apply symptomatic therapy.

Section 5: FIRE-FIGHTING MEASURES

Fire Hazard Properties:	If involved in a fire, it may emit gas and smoke which is poisonous and flammable.
Regulatory Requirements:	not required
Extinguishing Media and methods:	Extinguish warehouse and factory fires using dry chemical extinguisher, alcohol-resistant foam, carbon dioxide or fine-water spray. DO NOT use direct jet of water.
Hazchem Code:	2X
Recommended Protective Clothing:	When fighting a major fire wear an air-supplied respirator and full protective equipment.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Emergency Procedures: Ensure suitable personal protection during removal of spillages. This means wearing eye protection, chemically resistant gloves, boots and overalls.
Environmental Precautions:	Washings must be prevented from entering surface water drains or waterways.
Procedure for spill:	<ol style="list-style-type: none">(1) Keep all bystanders away.(2) Wear goggles, half face-piece respirator with combined dust and vapour cartridge, full length clothing and PVC gloves.(3) Reposition any leaking containers so as to minimise further leakage.(4) Dam and absorb spill with an absorbent material (e.g. sand or soil).(5) Shovel the absorbed spill into drums.(6) Decontaminate the spill area with detergent and water and rinse with the smallest volume of water practicable.
Procedure for Disposal:	Disposal of the absorbed material will depend upon the extent of the spill. Contaminated material must be disposed of in accordance with all local authority requirements. It is suggested: <ul style="list-style-type: none">• For quantities up to 50 litres of product bury in a secure approved landfill site.• For quantities greater than 50 litres seek advice from the manufacturer (use emergency contact number below) before attempting disposal. Contain in a secure location until disposal method is established.

Section 7: HANDLING AND STORAGE

Precautions for safe handling:	Handling: No special technical protective measures required. No special handling advice required.
Regulatory Requirements:	Not applicable
Handling practices:	Avoid contact with skin and eyes and inhalation of concentrate or spray mist. When using, do not eat, drink or smoke. Wash face and hands before eating, drinking or smoking.
Approved Handlers:	Approved Handlers required at time of use.

Conditions for Safe Storage:	Storage: Keep out of reach of children. Keep in original containers and tightly closed. Keep away from food, drink and animal feeding stuffs. Store in a cool, dry, well ventilated place and protect from sunlight. Avoid temperatures below minus 5°C or above 35°C.
Store Site Requirements:	Signage and secondary containment will be required at sites holding 100 litres or more of any product classified as 9.1A (eg ALTO).
Packaging:	Store in original container, tightly closed, away from foodstuffs.

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

ALWAYS READ AND FOLLOW THE LABEL INSTRUCTIONS AND WARNINGS

Workplace Exposure Guidelines:	
Workplace Exposure Standards:	<p>Cyproconazole: 8 h TWA: 0.5 mg/m³ Source: Syngenta</p> <p>1-methyl-2-pyrrolidone 8 h TWA: 20 ppm (Source: DFG) 8 h TWA: 80 mg/m³ (Source: SUVA) Short term exposure limit: 20 ppm, 80 mg/m³, 100 ppm, 400 mg/m³ (Source: SUVA)</p>
Application in the workplace:	Not required
Exposure standards outside the workplace:	Not required
Engineering controls:	<p>No special requirements. Product is used outdoors. Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. If airborne mists or vapors are generated, use local exhaust ventilation controls. Assess exposure and use any additional measures to keep airborne levels below any relevant exposure limit.</p> <p>Follow precaution statements on the label and the use and safety directions in Code of Practice for the Management of agrichemical NZS8409.</p>
Personal Protection:	Use only protective equipment bearing the mark of the Standards Association with Australia/ New Zealand. In case of heavy exposure, wear half face-piece respirator with combined dust and vapour cartridge, chemical resistant gloves and heavy duty cotton overalls.
General Hygiene:	Change work clothes daily. May irritate the eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. If product gets on skin immediately wash area with soap and water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	yellow to brown liquid
Odour:	weak
Melting Point:	103-105°C (cyproconazole)
Solubility in Water:	miscible
Density:	1.10-1.14 g/cm ³ at °C
pH value	2-6 (1% deionised water)
Vapour Pressure:	2.6 x 10 ⁻⁷ Torr @ 20°C
Flashpoint:	131°C
Oxidizing properties:	not oxidising
Explosive properties:	not explosive
Viscosity/dynamic:	104 mPa.s @ 20°C 40.3 mPa.s @ 40°C
Surface tension:	32.3 mN/m @ 20°C

Section 10: STABILITY AND REACTIVITY

Stability of the Substance:	Stable under normal use and storage conditions.
Conditions to Avoid:	None known
Material to Avoid:	none known
Hazardous decomposition products	Can decompose at high temperatures forming toxic gases.
Hazardous polymerisation	Does not occur
Specific Data	not applicable

Section 11: TOXICOLOGICAL INFORMATION

HSNO Classifications:	
6.4A, 6.8A, 6.9B	
Acute Effects (Undiluted product)	
Swallowed:	LD ₅₀ >2000 mg/kg (rat)
Dermal absorption:	LD ₅₀ >4000 mg/kg (rat)
Inhaled:	LC ₅₀ (4 h) >5.05 mg/L (rat)
Irritation	
Eye:	IRRITANT (HSNO Classification)
Skin:	NON-IRRITANT (rabbit)
Sensitization	
	NOT A SENSITISER (guinea pigs)

Chronic / Long Term Effects (Active Ingredient)

Cyproconazole technical has been extensively tested on laboratory mammals and in test-tube systems. May cause liver damage from repeated oral exposure at high doses. Maternal and foetal toxicity were observed at high dose levels in rats. There are indications of development toxic effects from reproductive studies. There were liver tumors in mice only.

Section 12: ENVIRONMENTAL INFORMATION

HSNO Classifications:	
9.1A, 9.3C	
Environmental Risk and Safety Phrases:	Avoid contamination of any water supply with chemical or empty container
The information presented below is for the active ingredient, cyproconazole. A thorough review of environmental information is not possible in this document.	
Ecotoxicity Effects	
Toxicity to Birds:	LC ₅₀ = (8 d dietary) = 1292 ppm (bobwhite quail) LC ₅₀ = (8 d dietary) = 1197 ppm (mallard duck)
Acute toxicity to fish:	LC ₅₀ (96 h) = 64.5 mg/L (common carp) LC ₅₀ (96 h) = 141 mg/L (Salmo gairdneri [rainbow trout])
Toxicity to aquatic Invertebrates:	LC ₅₀ (48h) = 59 mg/L (Daphnia magna (water flea))
Toxicity to algae:	EbC ₅₀ (72 h) = 2.34 mg/L (Selenastrum capricornutum [green algae]) ErC ₅₀ (72 h) = >10 mg/L (Selenastrum capricornutum [green algae])
Toxicity to soil dwelling organisms:	LC ₅₀ (14 days) = 335 mg/kg (earthworms)
Toxicity to Bees:	LD ₅₀ (48 h, oral) = >1 mg/bee LD ₅₀ (48 h, contact) = >0.1 mg/bee

Environmental Fate

The information presented here is for the active ingredient, cyproconazole.
Cyproconazole does not bioaccumulate. Cyproconazole is persistent in water. Cyproconazole has low to medium mobility in soil. Floats in water (after 24 hours). In soil, cyproconazole degrades moderately quickly, DT₅₀ c. 3 mo. No leaching potential. Soil adsorption, Freundlich K 4.1 (loam, pH 6.4, o.m. 2.3%), 16 (loamy sand, pH 5.1, o.m. 3.9%)

Section 13: DISPOSAL CONSIDERATIONS

Product Disposal:	Dispose of this product only by using according to the label, or at an approved landfill or other approved facility.
Container Disposal:	Ensure the container is empty. Triple rinse the container and add the residue to the spray tank. If recycling, replace cap and return clean containers to recycler or designated collection point. Alternatively, if allowed under local Territorial Authority District Plans, burn if circumstances, especially wind direction permit, otherwise crush and bury in an approved local authority facility. DO NOT reuse this container for any other purpose.

Section 14: TRANSPORT INFORMATION

Based on 9.1A classification:

Rail / Road (RID/ADR)	UN-No: 3082 Class: 9 Packaging Group: III Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cyproconazole)
Sea (IMDG-Code)	UN-No: 3082 Class: 9 Packaging Group: III Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cyproconazole)
Air (ICAO/IATA)	MARINE POLLUTANT: yes UN-No: 3082 Class: 9 Packaging Group: III Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cyproconazole)

Section 15: REGULATORY INFORMATION

HSNO Approval Number:	HSR000518
HSNO Controls (inc. Tracking and Record Keeping):	See http://www.epa.govt.nz/search-databases/Pages/controls-search.aspx for controls.
ACVM Registration:	P 3943
ACVM Controls:	See www.foodsafety.govt.nz/industry/acvm for registration conditions.

Section 16: OTHER INFORMATION

Note: This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. A comprehensive package of toxicological and environmental data for the active ingredients of this product has been submitted to the Government health and environment authorities and has been evaluated by expert toxicologists and environmental scientists.

CONTACT POINT: Business Manager - Crop Protection: (09) 306 1503
24 HOURS EMERGENCY CONTACT: 0800 734 607

This Material Safety Data Sheet summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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DISCLAIMER

This product complies with the specifications in its statutory registration. Implied terms and warranties are excluded. Syngenta's liability for breach of the express or any non-excludable implied warranty is limited to product replacement or purchase price refund. The purchaser must determine suitability for intended purpose and take all proper precautions in the handling, storage and use of the product including those on the label and/or safety data sheet failing which Syngenta shall have no liability.