

Cyan™

Section 1: Identification of the Substance or Mixture and of the Supplier

Product name:	Cyan
Recommended use:	Plant growth regulator
Company details:	Grochem (AgriNova New Zealand Limited) 15 Sunlight Grove Porirua New Zealand
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Date of preparation:	01 June 2018

Section 2: Hazards Identification

Hazard classification

Dangerous Goods (Transport) Dangerous Goods Class 6.1, packing group III

Hazardous Substances (HSNO) 6.1C (DANGER: Toxic if swallowed, inhaled or in contact with skin)
6.3A (WARNING: Causes skin irritation)
6.4A (WARNING: Causes serious eye irritation)
6.5B (WARNING: May cause an allergic skin reaction)
6.8B (WARNING: Suspected of damaging fertility or the unborn child)
6.9A (DANGER: May cause organ damage through prolonged or repeated exposure)
9.1D (Toxic to aquatic life)
9.3B (Toxic to terrestrial vertebrates)
9.4C (Harmful to terrestrial invertebrates)



Precautionary Statement:	P102 Keep out of reach of children
	P103 Read label before use
	P201 Obtain special instruction before use
	P202 Do not handle until all safety precautions have been read and understood
	P233 Keep container tightly closed
	P261 Avoid breathing vapours/ spray
	P264 Wash thoroughly after handling
	P270 Do not eat, drink or smoke when using this product
	P271 Use only outdoors or in a well ventilated area
	P272 Contaminated work clothing should not be allowed out of the workplace.
	P273 Avoid release to the environment
	P280 Wear protective gloves/ clothing/ eye/ face protection
	P281 Use personal protective equipment as required
P403 Store in a well ventilated place	
P405 Store locked up	

Section 3: Composition/Information on Ingredients

Classification & type: Mixture

Material	CAS No.	Proportion (%w)
Hydrogen cyanamide	420-04-2	>60%
Phosphoric Acid (stabiliser)	7664-38-2	To acidify
Other components not considered to be hazardous		to 100%

Section 4: First Aid Measures

First aid actions:

If Swallowed	Immediately call a POISON CENTRE or doctor/physician. Rinse mouth. If swallowed DO NOT induce vomiting. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
If in Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing least 15 minutes. If effects persist, seek medical attention.
If on Skin	Remove/ take off immediately all contaminated clothing. Wash with plenty of soap and water. If skin irritation or rash occurs get medical advice. Wash clothing before reuse. Call a POISON CENTRE or a doctor/ physician if you feel unwell.
If Inhaled	Remove to fresh air and keep at rest in a position comfortable for breathing. Begin artificial respiration if breathing has stopped. Call the POISON CENTRE or doctor/ physician.

If exposed or concerned: Call a POISON CENTRE or doctor/physician for advice.

Workplace Facilities

Ensure that an eye bath and safety shower are available.

Notes for medical personnel:

Treat symptomatically.

Section 5: Fire Fighting Measures

Type of Hazard:	Material is not flammable. Hazardous combustion products include ammonia and nitrogen oxides. Avoid heating the product. Decomposes violently by excess alkalization.
Extinguishing media & methods:	In case of fire, use water spray or dry chemical. Do NOT use water jets.
Recommended protective clothing:	Fire-fighters should wear full protective clothing including self-contained breathing apparatus.
HAZCHEM code:	2X

Section 6: Accidental Release Measures

Personal protection:	See section 8.3
Containment and clean up:	Isolate spill area. Spills should be absorbed with sawdust, clay or sand, followed by disposal at a sanitary landfill. Rinse spill area with water. Prevent product spill and washings from entering waterways, drains and confined areas. Seek expert advice.

Section 7: Handling and Storage

Subsection 1:	Handling
Handling practices	Do not handle until all safety precautions have been read and understood. Approved Handler Test Certificate required. Do not breathe mist/spray. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash hands and face thoroughly after use and before work breaks, eating, drinking, smoking and using the toilet. Do not drink alcohol for 24 hours before and up to seven days after using cyan.
Subsection 2:	Storage
Store site requirements	Store locked up. Store containers refrigerated in a dark place to avoid decomposition. Keep container tightly closed to avoid splashing and leakage.
Packaging	Use plastic packaging.

Section 8: Exposure Controls/Personal Protection

Subsection 1:	Workplace Exposure Guidelines (may also be considered in section 2)
Exposure standards	<p>The following ADE and PDEs for hydrogen cyanamide (active) have been set:</p> <ul style="list-style-type: none"> · ADE = 0.002mg/kg bw/day · PDE (dermal exposure) = 0.0008mg/kg bw/day · PDE (inhalation exposure) = 0.0008mg/kg bw/day · PDE (food) = 0.0004mg/kg bw/day <p>TELs have not been set at this time. WES-TWA for hydrogen cyanamide (active) 2mg/m³</p>
Subsection 2:	Engineering Controls
Exposure control measures	Use in a naturally well ventilated area or with local exhaust.
Subsection 3:	Personal Protective Equipment (PPE)
Respiratory	Wear respirator with filter suitable for aerosol particles.
Skin	Protective clothing (PVC suit with hood), impermeable headwear, Chemical resistant boots.
Hands	Safety gauntlet gloves (PVC, nitrile or similar).
Eyes	Safety glasses with side shields or face shield.

Section 9: Physical and Chemical Properties

Appearance	Blue Liquid	pH	4-6
Odour	Offensive	Boiling point (degC)	Not available
Specific gravity (kg/L)	1.07	Freezing point (degC)	-16
Solubility	Infinite (inwater)	Flashpoint (degC)	Non-flammable

Section 10: Stability and Reactivity

Stability of substance:	Will gradually dimerize under ordinary conditions. Gradually hydrolyze to form Urea at pH <2 or pH >12.
Conditions to avoid:	Excessive heat.
Material to avoid:	Avoid contact with acids, alkalis and oxidising agents.
Hazardous decomposition products:	Hazardous combustion products can include ammonia and nitrogen oxides.
Hazardous polymerization:	Alkali causes violent exothermic polymerisation.

Section 11: Toxicological Information

Data and interpretation:

Acute Toxicity – Oral	LD50 (rat) 125 mg/kg for cyanamide LD50 (rat) 300 mg/kg for the formulation
Acute Toxicity – Dermal	LD50 (rabbit) 848 mg/kg for cyanamide LD50 (rabbit) 1700 mg/kg for the formulation
Acute Toxicity – Inhalation	LC50 (rat) (4hr) >1 mg/l for cyanamide LC50 (rat) (4hr) >2 mg/l for the formulation

Symptoms of exposure:

Acute Effects:

If Swallowed	Irritation of mucous membranes, severe dermatitis on moist skin, skin flushing (Cyanamide Flush), headache, dizziness, shortness of breath and rapid pulse.
If in Eye	Causes serious eye irritation
If on Skin	May cause an allergic skin reaction
If Inhaled	May cause irritation of mucous membranes.

Chronic Effects:

Human Effects	No data available. Cyanamide inhibits the enzyme aldehyde dehydrogenase and thus interferes with the oxidation of alcohol, resulting in the accumulation of acetaldehyde in the blood, an effect, which may account for the unpleasant, but transient symptoms of flush.
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Section 12: Ecological Information

Potential environmental interactions:

Acute Toxicity - Fish	The following is data for the active ingredient, cyanamide. LC50 (96 hr) for rainbow trout is 90 mg/l. LC50 (96 hr) for bluegill sunfish is 44 mg/l.
Acute Toxicity - Daphnia	LC50 (48 hr) for cyanamide is 3.2 mg/l.
Acute Toxicity - Other Organisms	The following data is for the active ingredient, cyanamide. LD50 for bobwhite quail is 350 mg/kg Toxic to bees.

Section 13: Disposal Considerations

Product disposal:	Use only as directed on the label.
Container disposal:	Triple rinse empty drums thoroughly with water and drain rinse water into the spray tank. Do not cut, puncture or weld near unrinsed, empty drum. Do not re-use drum for other purposes. Rinsed drums should be punctured and immediately buried at a sanitary landfill.

Section 14: Transport Information

UN number:	2810
DG class and subsidiary group:	6.1
Proper shipping name:	Toxic Liquid, Organic, NOS
Packing group:	III
HAZCHEM code:	2X
Special precautions	Do not transport with foodstuffs. Maximum of 0.1L may be carried on a passenger service vehicle.

Section 15: Regulatory Information

Regulatory status:	Approved pursuant to the HSNO Act 1996. HRC000001. See www.epa.govt.nz for approval conditions. Registered pursuant to the ACVM Act 1997: P7190. See www.foodsafety.govt.nz for registration conditions.
HSNO Controls:	Trigger quantities for this substance:
Approved Handler Test Certificate	Required
SDS must be available for	Any quantity
Signage	1,000L
Emergency plan	100L
Bunding	100L

Section 16: Other Information

Revision due:	01 June 2023
Additional information:	Do not allow animals to come into contact with spray mist or tank washings. Dogs are sensitive to Cyan poisoning and must be removed from the spraying operation. Non-grazing animals should not be exposed to residues on grass for three days. Grazing animals should not be exposed to residues on grass for seven days.

Glossary:

ACVM	Agricultural Compounds and Veterinary Medicines (in relation to Group or Act 1997)
ACGIH	American Conference of Governmental Industrial Hygienists
ADE	Acceptable Daily Exposure
CAS	Chemical Abstract Services Number, used to uniquely identify chemical compounds
HSNO	Hazardous Substances and New Organisms (legislation 1996)
LD50	Lethal Dose to kill 50% of test animals/organisms
TLV	Threshold Limit Values
TWA	TimeWeighted Average
PDE	Potential Daily Exposure values
PPE	Personal Protective Equipment
WES	Workplace Exposure Limit

This SDS summarises our best knowledge of the health and safety hazard information available for this product and how to safely handle and use it. Since the use of this information and the conditions of the use of this product are not under the control of GroChem, it is the user's responsibility to determine conditions of safe use of the product.