


## 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

PRODUCT NAME: GUARDIAN  
 OTHER NAME: Suspension concentrate containing 500 g/L carbendazim  
 USE: Fungicide  
 SUPPLIER NAME: AGPRO NZ Ltd  
 SUPPLIER ADDRESS: 10 Polaris Place, East Tamaki, Auckland 2013  
 PO Box 58-963, Botany, Auckland 2163  
 SUPPLIER CONTACT: 09 273 3456 or freephone 0508 536 536  
 www.agpro.co.nz  
 POISON INFORMATION: National Poison Centre, 0800 POISON (0800 764 766) 24 hours  
 CHEMICAL EMERGENCY: 0800 CHEMCALL (0800 243 622) 24 hours

## 2. HAZARDS IDENTIFICATION

NEW ZEALAND: Hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020 of the HSNO Act, 1996  
 APPROVAL NUMBER: HSR000453  
 HAZARD CLASSIFICATIONS: Reproductive toxicity Category 1, Germ cell mutagenicity Category 1, Specific target organ toxicity (repeated exposure) Category 2, Hazardous to soil organisms, Hazardous to the aquatic environment acute Category 1, Hazardous to the aquatic environment chronic Category 1

PICTOGRAMS: 

SIGNAL WORD: DANGER

HAZARD STATEMENTS: May cause genetic defects.  
 May damage fertility or the unborn child.  
 May cause damage to organs through prolonged or repeated exposure.  
 Very toxic to aquatic life and with long lasting effects.  
 Toxic to soil organisms.

PREVENTION: Read label before use.  
 Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Do not breathe mist/vapours/spray.  
 Avoid release to the environment.  
 Wear personal protective equipment as required.

RESPONSE: Get medical advice if you feel unwell.  
 IF exposed or concerned: Get medical advice/attention.  
 Collect spillage.

STORAGE: Store locked up.

DISPOSAL: Dispose of unwanted product and used packaging in compliance with local regulations.

TRANSPORT: GUARDIAN is classified as Dangerous Goods Class 9 for Transport.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS No.	% w/w
Carbendazim	10605-21-7	42 - 44*
Ethylene glycol	107-21-1	1 - 3
Other ingredients	Trade secret	balance to 100

\*equivalent to 500 g/L carbendazim

**4. FIRST - AID MEASURES**

If exposed or concerned, or feel unwell, contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor for advice. Have product label or SDS at hand.

Ingestion	If swallowed, do NOT induce vomiting. Rinse mouth with water. Contact the National Poisons Centre on 0800 POISON (0800 764 766) or a doctor for advice.
Inhalation	Remove patient to fresh air. Keep in position comfortable for breathing. If breathing is shallow or has stopped ensure airway is clear, apply resuscitation and seek medical assistance immediately.
Skin contact	Remove contaminated clothing and wash with soap and running water. If irritation persists, get medical advice.
Eye contact	If in eyes flush with plenty of water holding eyelids open if necessary. Remove contact lenses if present, after a few minutes, then continue flushing with water. Get medical advice if irritation persists.
Advice to Doctor	Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

Flammability:	Nonflammable.
Hazardous Combustion Products:	If involved in a fire, may evolve toxic/harmful compounds.
Extinguishing Media:	Foam, water fog or spray, carbon dioxide or dry chemical as appropriate to surrounding materials.
Protective Equipment:	Full protective clothing and self-contained breathing apparatus.

**6. ACCIDENTAL RELEASE MEASURES**

Spills and Disposal:	Wear personal protective equipment. Exclude non-essential people from the area. Contain spillage. Collect spillage in labelled containers than can be closed, for reuse or disposal. Absorb spills with inert material and place in a sealable labelled waste container. Dispose of waste safely in an approved landfill or hazardous waste facility.
Environmental Precautions:	Prevent from entering drains, waterways or sewers. If spill does enter waterways immediately contact local authority.

**7. HANDLING AND STORAGE**

Handling:	Keep out of reach of children. Read label before use. Keep container tightly closed when not in use. Use only according to label. Wear personal protective equipment. Avoid contact with skin and eyes and inhalation of vapours or spray mist. Contaminated work clothing should not be allowed out of the workplace. Use outdoors or in well-ventilated area. Do not apply directly into or onto water. Take all reasonable steps to ensure the product does not cause any significant adverse effects to the environment beyond the application area. Written records of use are required if more than 3 kg (3L) applied within 24 hours in a place where the product is likely to enter air or water and leave the application area. GUARDIAN must be under the control of a Qualified Handler during use.
Storage:	Signage, an emergency response plan and secondary containment are required when 100 L or more is on site. Store in original container tightly closed and in a secure well-ventilated area away from foodstuffs, fertilisers and seeds. For guidance refer to the current version of NZS 8409 Management of Agrichemicals and the Health and Safety at Work (Hazardous Substances) Regulations 2017.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: Worksafe NZ (13<sup>th</sup> edition, April 2022)

<i>Ingredient</i>	<i>Exposure</i>	<i>Form</i>	<i>WES-Ceiling</i>
Ethylene glycol (CAS No 107-21-1)	Inhalation	Vapours and mist	50 ppm (127 mg/m <sup>3</sup> )

Protective Equipment: When opening the container, preparing to measure, load or when applying: wear safety goggles, waterproof gloves, cotton overalls buttoned to the neck and wrist, and boots.

The following Standards provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

Engineering Controls: Handle outdoors or in a well-ventilated area. Use local exhaust ventilation, or other engineering controls as appropriate to conditions.

Hygiene Precautions: Do not eat, drink or smoke while using this product. Remove protective clothing and wash hands and face before meals and after work. Wash protective clothing and equipment daily after work.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White flowable liquid
Odour:	Practically odourless
Odour threshold:	No information available
pH (neat)	6.0 - 9.0
Melting point/freezing point:	Not available
Initial boiling point/range:	> 100°C
Flashpoint:	> 93°C
Flammability (solid, gas):	Not applicable
Upper/lower flammability limits:	Not available
Vapour pressure:	Not available
Vapour density:	Not available
Relative density:	ca 1.17
Solubilities:	Disperses in water
Partition coefficient: n-octanol/water:	Not available
Auto-ignition temperature:	No information available
Decomposition temperature:	Not available
Kinematic viscosity:	Not available
Particle characteristics:	Not available

## 10. STABILITY AND REACTIVITY

Stability:	Stable under normal storage conditions in original container for at least two years.
Conditions to avoid:	Contact with incompatible materials.
Incompatible substances or materials:	Strong acids or strong bases.
Hazardous polymerization:	Hazardous polymerization will not occur.

## 11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Not classified as being acutely toxic by oral, dermal or inhalation.
Aspiration hazard:	Not classified.
Respiratory irritation:	Not classified.

Skin corrosion/irritation:	Not classified.
Serious eye damage/irritation:	Not classified.
Respiratory or skin sensitization:	Not classified.
Germ cell mutagenicity:	Carbendazim identified as may cause genetic effects.
Carcinogenicity:	Not classified.
Reproductive toxicity:	Carbendazim may damage fertility or the unborn child.
Specific organ toxicity:	May cause damage to organs or systems from repeated exposure. Carbendazim is possible liver toxicant; increases estrogen production and aromatase activity.
Narcotic effects:	No components identified with narcotic effects.
Toxicological information:	<u>Carbendazim (active ingredient)</u> Oral, rat LD <sub>50</sub> >10,000 mg/kg bw Dermal, rabbit LD <sub>50</sub> >5000 mg/kg bw Inhalation, rat LC <sub>50</sub> (4 h) >5.4 mg/L

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	GUARDIAN is classified as being very toxic to aquatic life and with long-lasting effects. GUARDIAN is also very toxic to the soil environment.
Ecotoxicological information:	<u>Carbendazim</u> Fish: Channel catfish LC <sub>50</sub> (96 h) 0.014 mg/L ; Rainbow trout LC <sub>50</sub> (96 h) 0.19 mg/L Crustacean: <i>Daphnia magna</i> EC <sub>50</sub> (48 h) 0.15 mg/L Algae: <i>Scenedemus subspicatus</i> EC <sub>50</sub> (72 h) growth >7.7 mg/L; <i>Chlorella pyrenoidosa</i> EC <sub>50</sub> (48 h) growth 0.34 mg/L Bird: Bobwhite quail LD <sub>50</sub> >5000 mg/kg bw Earthworm: <i>Eisenia foetida</i> LC <sub>50</sub> (14 d) 5.4 mg/kg Bee: LD <sub>50</sub> (48 h) contact, >50 µg/bee; LD <sub>50</sub> (48 h) oral, >100 µg/bee
Persistence and degradability:	Carbendazim DT <sub>50</sub> (typical) 40 days; DT <sub>50</sub> (field) 22 days. Bioconcentration factor (BCF) 25.
Potential to be bioaccumulative:	Carbendazim is not bioaccumulative.
Mobility in soil:	Carbendazim has low solubility in water (8 mg/L).
Other adverse effects:	No information available.
Environmental Exposure Limits (EEL):	Not available.

## 13. DISPOSAL CONSIDERATIONS

Product Disposal:	Dispose of product only by using according to label or dispose of at an approved landfill.
Container Disposal:	Ensure container is completely empty. Triple rinse with water add rinsate to the spray tank. Dispose of empty clean container to recycler for agricultural chemicals, otherwise crush and bury in an approved landfill. Do not use container for any other purpose.

## 14. TRANSPORT INFORMATION

UN Number:	3082
Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (CARBENDAZIM 50%)
DG Class:	9
Packing Group:	III
Marine Pollutant:	Yes
HAZCHEM	3Z

Do not transport GUARDIAN on a passenger services vehicle.

**15. REGULATORY INFORMATION**

New Zealand	Registered pursuant to the ACVM Act 1997, No. P9945	
	See <a href="http://www.foodsafety.govt.nz">www.foodsafety.govt.nz</a> for registration conditions	
	Approved pursuant to the HSNO Act 1996, Approval Code HSR000453	
	Suspension concentrate containing 500 g/L carbendazim (Substance A)	
	See <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> for Controls and <a href="http://www.worksafe.govt.nz">www.worksafe.govt.nz</a> .	
	Qualifications	Qualified Handler
	Tracking:	Not required
	Safety Data Sheet:	Any quantity
	Restricted to workplace only:	No
	Quantity that must be secured when unattended:	Not applicable
	Fire extinguishers	Not required
	Quantity for secondary containment and emergency response plan:	>100 L
	Quantity for signage:	>100 L
	Quantity for Location certificate	Not required
	Records of use (3 kg or more applied to area within 24 hours)	Yes
	Quantity that requires management in accordance with HSW HS Regulations	10,000 L

**16. OTHER INFORMATION**

Version: 1.1

Issue Date: 17<sup>th</sup> June, 2023

Reason for Issue: Updated supplier contact details.

Replaces: 17<sup>th</sup> August 2022

**References:**

Supplier Safety Data Sheets

NZ EPA Approved hazardous substances databases.

Worksafe NZ Workplace Exposure Standards and Biological Exposure Indices

NZS 5433:2020 New Zealand Standard Transport of Dangerous Goods on Land

University of Hertfordshire Pesticides Properties Database (PPDB)

**Abbreviations:**

ACVM	Agricultural Chemicals and Veterinary Medicines Group
ADI	Acceptable Daily Intakes
BCF	Bioconcentration factor
CAS Number	Chemical Abstracts Service Registry Number
CCID	Chemical Classification Identification Database
EPA	Environmental Protection Authority
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
HSNO	Hazardous Substances and New Organisms
HS	Health and Safety

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HSR	Hazardous Substances Register
IARC	International Agency for Research on Cancer
LC <sub>50</sub>	Median Lethal Concentration
LD <sub>50</sub>	Median Lethal Dose (50% population)
SDS	Safety Data Sheet
NOAEL	No Observable Adverse Effect Level
NOEL	No Observable Effect Level
NOS	Not otherwise specified
STEL	Short Term Exposure Limit
TWA	Time-Weighted Average
UN Number	United Nations Number
WES-STEL	Workplace exposure standards – Short-term exposure limit
WES-TWA	Workplace exposure standards – Time-weighted average

The data given here is based on current knowledge and experience. The purpose of this safety data sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.

End of Safety Data Sheet.