

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

### SECTION 1. IDENTIFICATION

Product name : Fenbendazole (10%) Aqueous Solution (NZ)  
Other means of identification : PANACUR 100 (A007154)

#### Manufacturer or supplier's details

Company name of supplier : Merck & Co., Inc  
Address : 37 McCarville Street  
Charlottetown, PE C1E 2A7  
Telephone : 908-740-4000  
Emergency telephone : 1-908-423-6000  
E-mail address : EHSDATASTEWARD@merck.com

#### Recommended use of the chemical and restrictions on use


Recommended use : Veterinary product  
Restrictions on use : Not applicable

### SECTION 2. HAZARDS IDENTIFICATION

#### GHS classification in accordance with the Hazardous Products Regulations

Reproductive toxicity : Category 2  
Specific target organ toxicity : Category 2 (Liver, Stomach, Nervous system, Lymph nodes)  
- repeated exposure (Oral)

#### GHS label elements

Hazard pictograms	: 
Signal Word	: Warning
Hazard Statements	: H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H373 May cause damage to organs (Liver, Stomach, Nervous system, Lymph nodes) through prolonged or repeated exposure if swallowed.
Precautionary Statements	: <b>Prevention:</b> P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe mist or vapors. P280 Wear protective gloves, protective clothing, eye protection and face protection. <b>Response:</b> P308 + P313 IF exposed or concerned: Get medical attention.

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



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Version 4.0      Revision Date: 06/17/2025      SDS Number: 10776693-00007      Date of last issue: 04/14/2025  
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### Storage:

P405 Store locked up.

### Disposal:

P501 Dispose of contents and container to an approved waste disposal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	Common Name/Synonym	CAS-No.	Concentration (% w/w)
fenbendazole	No data available	43210-67-9	$\geq 10 - < 30$ *

\* Actual concentration or concentration range is withheld as a trade secret

## SECTION 4. FIRST AID MEASURES

- General advice : In the case of accident or if you feel unwell, seek medical advice immediately.  
When symptoms persist or in all cases of doubt seek medical advice.
- If inhaled : If inhaled, remove to fresh air.  
Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with soap and plenty of water.  
Remove contaminated clothing and shoes.  
Get medical attention.  
Wash clothing before reuse.  
Thoroughly clean shoes before reuse.
- In case of eye contact : Flush eyes with water as a precaution.  
Get medical attention if irritation develops and persists.
- If swallowed : If swallowed, DO NOT induce vomiting.  
Get medical attention.  
Rinse mouth thoroughly with water.
- Most important symptoms and effects, both acute and delayed : Suspected of damaging fertility. Suspected of damaging the unborn child.  
May cause damage to organs through prolonged or repeated exposure if swallowed.
- Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).
- Notes to physician : Treat symptomatically and supportively.

## SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Water spray

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



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Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

		Alcohol-resistant foam Carbon dioxide (CO <sub>2</sub> ) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NO <sub>x</sub> ) Sulfur oxides Metal oxides
Specific extinguishing methods	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).
Environmental precautions	:	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g., by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



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Version 4.0      Revision Date: 06/17/2025      SDS Number: 10776693-00007      Date of last issue: 04/14/2025  
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### SECTION 7. HANDLING AND STORAGE

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not breathe mist or vapors.  
Do not swallow.  
Avoid contact with eyes.  
Avoid prolonged or repeated contact with skin.  
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment  
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.  
Store locked up.  
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:  
Strong oxidizing agents  
Gases

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
fenbendazole	43210-67-9	TWA	100 µg/m <sup>3</sup> (OEB 2)	Internal

- Engineering measures** : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).  
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.  
Laboratory operations do not require special containment.

#### Personal protective equipment

- Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
- Filter type : Particulates type
- Hand protection : Chemical-resistant gloves
- Material
- Eye protection : Wear safety glasses with side shields or goggles.  
If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.  
Wear a faceshield or other full face protection if there is a

# SAFETY DATA SHEET

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## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

Skin and body protection	: potential for direct contact to the face with dusts, mists, or aerosols.
Hygiene measures	: Work uniform or laboratory coat. : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Aqueous solution
Color	: white off-white
Odor	: No data available
Odor Threshold	: No data available
pH	: 6.0 - 7.0
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: No data available
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: No data available
Density	: No data available

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: Not applicable
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, kinematic	: 50 - 300 mm <sup>2</sup> /s
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: No data available
Particle characteristics	
Particle size	: Not applicable

### SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Can react with strong oxidizing agents.
Conditions to avoid	: None known.
Incompatible materials	: Oxidizing agents
Hazardous decomposition products	: No hazardous decomposition products are known.

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

Inhalation  
Skin contact  
Ingestion  
Eye contact

#### Acute toxicity

Not classified based on available information.

#### Components:

##### fenbendazole:

Acute oral toxicity	: LD50 (Rat): > 10,000 mg/kg
	: LD50 (Mouse): > 10,000 mg/kg

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

### Skin corrosion/irritation

Not classified based on available information.

#### Components:

##### fenbendazole:

Species	: Rabbit
Result	: No skin irritation

### Serious eye damage/eye irritation

Not classified based on available information.

#### Components:

##### fenbendazole:

Species	: Rabbit
Result	: No eye irritation

### Respiratory or skin sensitization

#### Skin sensitization

Not classified based on available information.

#### Respiratory sensitization

Not classified based on available information.

### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### fenbendazole:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES)
	Result: negative
	Test Type: DNA Repair
	Result: negative
	Test Type: Chromosomal aberration
	Result: negative
	Test Type: in vitro test
	Test system: mouse lymphoma cells
	Metabolic activation: Metabolic activation
	Result: equivocal

### Carcinogenicity

Not classified based on available information.

#### Components:

##### fenbendazole:

Species	: Mouse
Application Route	: oral (feed)

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

Exposure time	: 2 Years
NOAEL	: 405 mg/kg body weight
Result	: negative

Species	: Rat
Application Route	: Oral
Exposure time	: 2 Years
NOAEL	: 5 mg/kg body weight
Result	: negative
Target Organs	: Lymph nodes, Liver

### Reproductive toxicity

Suspected of damaging fertility. Suspected of damaging the unborn child.

### Components:

#### fenbendazole:

Effects on fertility	: Test Type: Three-generation reproduction toxicity study Species: Rat Application Route: oral (feed) General Toxicity Parent: NOAEL: 15 mg/kg body weight Fertility: LOAEL: 45 mg/kg body weight Result: Effects on fertility.
Effects on fetal development	: Test Type: Development Species: Dog, female Application Route: Oral Developmental Toxicity: LOAEL: 100 mg/kg body weight Result: Embryotoxic effects and adverse effects on the offspring were detected., No teratogenic effects.  Test Type: Embryo-fetal development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 25 mg/kg body weight Result: Fetotoxicity.  Test Type: Embryo-fetal development Species: Rabbit Application Route: Oral Developmental Toxicity: LOAEL: 63 mg/kg body weight  Test Type: Embryo-fetal development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 120 mg/kg body weight Result: No effects on fetal development.
Reproductive toxicity - Assessment	: Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.



# SAFETY DATA SHEET

according to the Hazardous Products Regulations



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Version 4.0      Revision Date: 06/17/2025      SDS Number: 10776693-00007      Date of last issue: 04/14/2025  
Date of first issue: 06/03/2022

### STOT-single exposure

Not classified based on available information.

### STOT-repeated exposure

May cause damage to organs (Liver, Stomach, Nervous system, Lymph nodes) through prolonged or repeated exposure if swallowed.

### Components:

#### fenbendazole:

Routes of exposure	: Ingestion
Target Organs	: Liver, Stomach, Nervous system, Lymph nodes
Assessment	: May cause damage to organs through prolonged or repeated exposure.

### Repeated dose toxicity

### Components:

#### fenbendazole:

Species	: Rat
LOAEL	: 500 mg/kg
Application Route	: Oral
Exposure time	: 2 Weeks
Target Organs	: Kidney, Liver

Species	: Rat
NOAEL	: > 2,500 mg/kg
Application Route	: Oral
Exposure time	: 30 Days
Remarks	: No significant adverse effects were reported

Species	: Rat
LOAEL	: 1,600 mg/kg
Application Route	: Oral
Exposure time	: 90 Days
Target Organs	: Central nervous system
Symptoms	: Tremors

Species	: Dog
NOAEL	: 4 mg/kg
LOAEL	: 8 mg/kg
Exposure time	: 6 Months
Target Organs	: Stomach, Nervous system, Lymph nodes

### Aspiration toxicity

Not classified based on available information.

### Components:

#### fenbendazole:

|| No aspiration toxicity classification

# SAFETY DATA SHEET

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Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

### Experience with human exposure

#### Components:

##### fenbendazole:

Ingestion : Symptoms: Rapid respiration, Salivation, anorexia, Diarrhea

## SECTION 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### fenbendazole:

Toxicity to fish	: LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.009 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 0.0088 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Daphnia magna (Water flea)): 0.00113 mg/l Exposure time: 21 Days Method: OECD Test Guideline 211

### Persistence and degradability

No data available

### Bioaccumulative potential

#### Components:

##### fenbendazole:

Partition coefficient: n-octanol/water : log Pow: 3.32

### Mobility in soil

#### Components:

##### fenbendazole:

Distribution among environmental compartments : log Koc: 3.8 - 4.7  
Method: FDA 3.08

### Other adverse effects

No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues	: Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging	: Empty containers should be taken to an approved waste

# SAFETY DATA SHEET

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Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

### SECTION 14. TRANSPORT INFORMATION

#### International Regulations

##### UNRTDG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (fenbendazole)
Class	: 9
Packing group	: III
Labels	: 9
Environmentally hazardous	: yes

##### IATA-DGR

UN/ID No.	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (fenbendazole)
Class	: 9
Packing group	: III
Labels	: Miscellaneous
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964
Environmentally hazardous	: yes

##### IMDG-Code

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (fenbendazole)
Class	: 9
Packing group	: III
Labels	: 9
EmS Code	: F-A, S-F
Marine pollutant	: yes

#### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

#### Domestic regulation

##### TDG

UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (fenbendazole)
Class	: 9
Packing group	: III
Labels	: 9
ERG Code	: 171
Marine pollutant	: yes(fenbendazole)

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

### Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

## SECTION 15. REGULATORY INFORMATION

### The ingredients of this product are reported in the following inventories:

AICS : not determined

DSL : not determined

IECSC : not determined

## SECTION 16. OTHER INFORMATION

### Full text of other abbreviations

AICC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

# SAFETY DATA SHEET

according to the Hazardous Products Regulations



## Fenbendazole (10%) Aqueous Solution (NZ)

Version	Revision Date:	SDS Number:	Date of last issue: 04/14/2025
4.0	06/17/2025	10776693-00007	Date of first issue: 06/03/2022

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Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 06/17/2025  
Date format : mm/dd/yyyy

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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