

# SAFETY DATA SHEET



## Fenbendazole Paste Formulation

Version 13.0	Revision Date: 2025/06/17	SDS Number: 887504-00027	Date of last issue: 2025/04/14 Date of first issue: 2016/09/16
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Chemical product name : Fenbendazole Paste Formulation

**Supplier's company name, address and phone number**

Company name of supplier : MSD

Address : 1-13-12, Kudan-kita, Chiyoda-ku, Tokyo, Japan

Telephone : 03-6272-1099

E-mail address : EHSDATASTEWARD@msd.com

Emergency telephone number : +1-908-423-6000

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

Recommended use : Veterinary product

Restrictions on use : Not applicable

### 2. HAZARDS IDENTIFICATION

**GHS classification of chemical product**

Reproductive toxicity : Category 2

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

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

**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. H410 Very toxic to aquatic life with long lasting effects.

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### Precautionary statements

#### **Prevention:**

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe vapours.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### **Response:**

P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P391 Collect spillage.

#### **Storage:**

P405 Store locked up.

#### **Disposal:**

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

### Other hazards which do not result in classification

None known.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

### Components

Chemical name	CAS-No.	Concentration (% w/w)	ENCS No.
fenbendazole	43210-67-9	>= 10 - < 20	
Propylene glycol	57-55-6	>= 15 - <= 15.16	2-234
Polyacrylic acid	9003-01-4	1	6-898
Ethanol#	64-17-5	< 0.1	2-202
2-Furaldehyde#	98-01-1	>= 0.0025 - < 0.025	5-40
Diethyl malonate#	105-53-3	>= 0.0025 - < 0.025	2-913
Cinnamaldehyde#	104-55-2	>= 0.0002 - < 0.0025	3-1148
Isovaleraldehyde#	590-86-3	>= 0.0002 - < 0.0025	2-494
Trans-hex-2-en-1-ol#	928-95-0	< 0.1	2-2393
Acetaldehyde#	75-07-0	< 0.0002	2-485

# Voluntarily-disclosed substance

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### 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.

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### 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray 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> ) Sulphur 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.

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Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

**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 dyking or other appropriate containment to keep material from spreading. If dyked 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.

**7. HANDLING AND STORAGE****Handling**

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 vapours. 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

Avoidance of contact : Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : Oxidizing agents

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working

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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.

### Storage

Conditions for safe storage : Keep in properly labelled 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

Packaging material : Unsuitable material: None known.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Threshold limit value and permissible exposure limits for each component in the work environment

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Concentra- tion standard / Permissible con- centration	Basis
fenbendazole	43210-67-9	TWA	100 µg/m <sup>3</sup> (OEB 2)	Internal
Ethanol	64-17-5	STEL	1,000 ppm	ACGIH
2-Furaldehyde	98-01-1	OEL-M	2.5 ppm 9.8 mg/m <sup>3</sup>	JP OEL JSOH
Further information: Skin absorption		8h-OEL-M	0.2 ppm	JP ISHL OEL 577-2(2)
		TWA	0.2 ppm	ACGIH
Acetaldehyde	75-07-0	OEL-C	10 ppm 18 mg/m <sup>3</sup>	JP OEL JSOH
Further information: Group 2B: possibly carcinogenic to humans		ST-OEL-M	10 ppm	JP ISHL OEL 577-2(2)
		C	25 ppm	ACGIH

### Biological occupational exposure limits

Components	CAS-No.	Target sub- stance	Biological specimen	Sam- pling time	Permissible concentra- tion	Basis
2-Furaldehyde	98-01-1	Furoic acid	Urine	End of shift (As soon as	200 mg/l	ACGIH BEI

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				possible after exposure ceases)		
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**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 : Combined particulates and organic vapour type

Hand protection Material : Chemical-resistant gloves

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 potential for direct contact to the face with dusts, mists, or aerosols.

Skin and body protection : Work uniform or laboratory coat.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : paste

Colour : white to off-white

Odour : cinnamon-like

Odour Threshold : No data available

Melting point/freezing point : No data available

Boiling point, initial boiling point and boiling range : No data available

Flammability (solid, gas) : Not applicable

Flammability (liquids) : No data available

Lower explosion limit and upper explosion limit / flammability limit  
Upper explosion limit / Up- : No data available  
per flammability limit

Lower explosion limit / : No data available

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### Lower flammability limit

Flash point	:	No data available
Decomposition temperature	:	No data available
pH	:	6 - 8
Evaporation rate	:	No data available
Auto-ignition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Vapour pressure	:	No data available
Density and / or relative density		
Relative density	:	No data available
Density	:	No data available
Relative vapour density	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics		
Particle size	:	No data available

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## 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.

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**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

**Propylene glycol:**

Acute oral toxicity : LD50 (Rat): 22,000 mg/kg  
Acute inhalation toxicity : LC50 (Rat): > 44.9 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg  
Assessment: The substance or mixture has no acute dermal toxicity

**Polyacrylic acid:**

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg  
Remarks: Based on data from similar materials

**Ethanol:**

Acute oral toxicity : LD50 (Rat): 10,470 mg/kg  
Method: OECD Test Guideline 401  
Acute inhalation toxicity : LC50 (Rat, male): 116.9 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Acute dermal toxicity : LD50 (Rabbit): > 15,800 mg/kg

**2-Furaldehyde:**

Acute oral toxicity : LD50 (Rat): 108 mg/kg  
Method: OECD Test Guideline 401  
Acute inhalation toxicity : LC50 (Rat): 1 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour

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Acute dermal toxicity : Acute toxicity estimate: 300 mg/kg  
Method: Expert judgement

### Diethyl malonate:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
Remarks: Based on data from similar materials

### Cinnamaldehyde:

Acute oral toxicity : LD50 (Rat): 2,200 mg/kg  
Acute dermal toxicity : LD50 (Rabbit): 1,260 mg/kg

### Isovaleraldehyde:

Acute oral toxicity : LD50 (Rat): 5,740 mg/kg  
Acute inhalation toxicity : LC50 (Rat): 42.7 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Acute dermal toxicity : LD50 (Rabbit): 2,534 mg/kg

### Trans-hex-2-en-1-ol:

Acute oral toxicity : LD50 (Rat): 3,500 mg/kg  
Acute inhalation toxicity : Assessment: Corrosive to the respiratory tract.  
Acute dermal toxicity : LD50 (Rabbit): 4,500 mg/kg

### Acetaldehyde:

Acute oral toxicity : LD50 (Rat): 661 mg/kg  
Acute dermal toxicity : LD50 (Rabbit): 3,540 mg/kg

### Skin corrosion/irritation

Not classified based on available information.

### Components:

#### **fenbendazole:**

Species : Rabbit  
Result : No skin irritation

#### **Propylene glycol:**

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**Species:** Rabbit  
**Method:** OECD Test Guideline 404  
**Result:** No skin irritation

**Polyacrylic acid:**

**Species:** Rabbit  
**Result:** No skin irritation  
**Remarks:** Based on data from similar materials

**Ethanol:**

**Species:** Rabbit  
**Method:** OECD Test Guideline 404  
**Result:** No skin irritation

**2-Furaldehyde:**

**Species:** Rabbit  
**Method:** OECD Test Guideline 404  
**Result:** Mild skin irritation

**Diethyl malonate:**

**Species:** Rabbit  
**Result:** No skin irritation

**Cinnamaldehyde:**

**Species:** human skin  
**Result:** Skin irritation

**Isovaleraldehyde:**

**Species:** Rabbit  
**Method:** OECD Test Guideline 404  
**Result:** Mild skin irritation

**Trans-hex-2-en-1-ol:**

**Species:** reconstructed human epidermis (RhE)  
**Method:** OECD Test Guideline 431  
**Result:** Corrosive after 3 minutes to 1 hour of exposure

**Acetaldehyde:**

**Species:** Rabbit  
**Method:** OECD Test Guideline 404  
**Result:** No skin irritation

**Serious eye damage/eye irritation**

Not classified based on available information.

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Species	:	Rabbit
Result	:	No eye irritation

**Propylene glycol:**

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

**Polyacrylic acid:**

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

**Ethanol:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

**2-Furaldehyde:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

**Diethyl malonate:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

**Cinnamaldehyde:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days
Method	:	OECD Test Guideline 405

**Isovaleraldehyde:**

Species	:	Rabbit
Result	:	Irritation to eyes, reversing within 21 days

**Trans-hex-2-en-1-ol:**

Result	:	Irreversible effects on the eye
Remarks	:	Based on skin corrosivity.

**Acetaldehyde:**

Species	:	Rabbit
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Result : Irritation to eyes, reversing within 21 days

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### Propylene glycol:

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : negative

##### Ethanol:

Test Type : Mouse ear swelling test (MEST)  
Exposure routes : Skin contact  
Species : Mouse  
Result : negative

##### 2-Furaldehyde:

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative

##### Diethyl malonate:

Test Type : Buehler Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Method : OECD Test Guideline 406  
Result : negative  
Remarks : Based on data from similar materials

##### Cinnamaldehyde:

Test Type : Maximisation Test  
Exposure routes : Skin contact  
Species : Guinea pig  
Result : positive

Assessment : Probability or evidence of high skin sensitisation rate in humans

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Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	positive
Remarks	:	Based on data from similar materials
Assessment	:	Probability or evidence of low to moderate skin sensitisation rate in humans

**Trans-hex-2-en-1-ol:**

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	negative
Remarks	:	Based on data from similar materials

**Acetaldehyde:**

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

**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 assay Test system: mouse lymphoma cells Metabolic activation: Metabolic activation Result: equivocal

**Propylene glycol:**

Genotoxicity in vitro	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
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Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

### Ethanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Method: OECD Test Guideline 476  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Rat  
Application Route: Ingestion  
Result: negative

### 2-Furaldehyde:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: positive

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: positive

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: positive

Test Type: In vitro sister chromatid exchange assay in mammalian cells  
Result: positive

Genotoxicity in vivo : Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo  
Species: Rat

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Application Route: Ingestion  
Result: negative

Test Type: Transgenic rodent somatic cell gene mutation assay  
Species: Mouse  
Application Route: Ingestion  
Result: negative

### Diethyl malonate:

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)  
Method: Directive 67/548/EEC, Annex, B.13/14  
Result: negative

Test Type: Chromosome aberration test in vitro  
Method: OECD Test Guideline 473  
Result: negative  
Remarks: Based on data from similar materials

### Cinnamaldehyde:

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: negative

Test Type: Chromosome aberration test in vitro  
Result: negative

Genotoxicity in vivo

: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Ingestion  
Result: negative  
Remarks: Based on data from similar materials

Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Result: negative

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)  
Species: Mouse  
Application Route: Ingestion  
Result: negative

Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo  
Species: Rat

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Application Route: Ingestion  
Result: negative

**Isovaleraldehyde:**

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative  
Remarks: Based on data from similar materials

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)  
Result: positive  
Remarks: Based on data from similar materials

Genotoxicity in vivo

: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative

**Trans-hex-2-en-1-ol:**

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)  
Method: OECD Test Guideline 471  
Result: negative

Test Type: in vitro micronucleus test  
Method: OECD Test Guideline 487  
Result: negative

Genotoxicity in vivo

: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)  
Species: Mouse  
Application Route: Intraperitoneal injection  
Method: OECD Test Guideline 474  
Result: negative  
Remarks: Based on data from similar materials

**Acetaldehyde:**

Genotoxicity in vitro

: Test Type: Bacterial reverse mutation assay (AMES)  
Result: negative

Test Type: In vitro mammalian cell gene mutation test  
Result: positive

Test Type: Chromosome aberration test in vitro  
Result: positive

Test Type: in vitro micronucleus test  
Result: positive

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Genotoxicity in vivo	: Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: positive
	: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: positive
	: Test Type: In vivo micronucleus test Species: Rat Application Route: Intraperitoneal injection Result: positive
	: Test Type: Mammalian bone marrow sister chromatid exchange Species: Mouse Application Route: Intraperitoneal injection Result: positive
Germ cell mutagenicity - Assessment	: Positive result(s) from in vivo mammalian somatic cell mutagenicity tests.

### Carcinogenicity

Not classified based on available information.

### Components:

#### **fenbendazole:**

Species	: Mouse
Application Route	: oral (feed)
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

#### **Propylene glycol:**

Species	: Rat
Application Route	: Ingestion
Exposure time	: 2 Years
Result	: negative

#### **2-Furaldehyde:**

Species	: Mouse
Application Route	: Ingestion

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Exposure time : 103 weeks  
Method : OECD Test Guideline 451  
Result : positive  
Remarks : The mechanism or mode of action is not relevant in humans.

Species : Hamster  
Application Route : inhalation (vapour)  
Exposure time : 52 weeks  
Result : negative

Species : Mouse  
Application Route : Skin contact  
Exposure time : 47 weeks  
Result : positive

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

### Cinnamaldehyde:

Species : Rat  
Application Route : Ingestion  
Exposure time : 106 weeks  
Result : negative  
Remarks : Based on data from similar materials

Species : Mouse  
Application Route : Intraperitoneal injection  
Exposure time : 24 weeks  
Result : negative

### Isovaleraldehyde:

Species : Rat  
Application Route : inhalation (vapour)  
Exposure time : 2 Years  
Result : negative  
Remarks : Based on data from similar materials

### Acetaldehyde:

Species : Rat  
Application Route : Inhalation  
Exposure time : 121 weeks  
Result : positive

Carcinogenicity - Assessment : Sufficient evidence of carcinogenicity in animal experiments

### Reproductive toxicity

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

### Components:

**fenbendazole:**

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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 foetal 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-foetal development Species: Rabbit Application Route: Oral Developmental Toxicity: NOAEL: 25 mg/kg body weight Result: Fetotoxicity
	Test Type: Embryo-foetal development Species: Rabbit Application Route: Oral Developmental Toxicity: LOAEL: 63 mg/kg body weight
	Test Type: Embryo-foetal development Species: Rat Application Route: Oral Developmental Toxicity: NOAEL: 120 mg/kg body weight Result: No effects on foetal 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.
<b>Propylene glycol:</b>	
Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Mouse Application Route: Ingestion Result: negative
Effects on foetal development	: Test Type: Embryo-foetal development Species: Mouse Application Route: Ingestion Result: negative
<b>Ethanol:</b>	
Effects on fertility	: Test Type: Two-generation reproduction toxicity study Species: Mouse Application Route: Ingestion

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Result: negative

**2-Furaldehyde:**

Effects on foetal development

: Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Result: negative**Diethyl malonate:**

Effects on fertility

: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development

: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422  
Result: negative  
Remarks: Based on data from similar materials**Cinnamaldehyde:**

Effects on foetal development

: Test Type: Embryo-foetal development  
Species: Mouse  
Application Route: Ingestion  
Result: negative**Trans-hex-2-en-1-ol:**

Effects on fertility

: Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 422  
Result: negative  
Remarks: Based on data from similar materials

Effects on foetal development

: Test Type: Embryo-foetal development  
Species: Rat  
Application Route: Ingestion  
Method: OECD Test Guideline 414  
Result: negative  
Remarks: Based on data from similar materials**Acetaldehyde:**

Effects on foetal develop-

: Test Type: Embryo-foetal development

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Species: Rat  
Application Route: Ingestion  
Result: negative

### STOT - single exposure

Not classified based on available information.

#### Components:

##### **2-Furaldehyde:**

Assessment : May cause respiratory irritation.

##### **Isovaleraldehyde:**

Assessment : May cause respiratory irritation.

##### **Acetaldehyde:**

Assessment : May cause respiratory irritation.

### STOT - repeated exposure

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

#### Components:

##### **fenbendazole:**

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

##### **2-Furaldehyde:**

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

### 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

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**Remarks** : No significant adverse effects were reported

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

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

### Propylene glycol:

<b>Species</b>	:	Rat, male
<b>NOAEL</b>	:	>= 1,700 mg/kg
<b>Application Route</b>	:	Ingestion
<b>Exposure time</b>	:	2 yr

### Ethanol:

<b>Species</b>	:	Rat
<b>NOAEL</b>	:	1,730 mg/kg
<b>LOAEL</b>	:	3,200 mg/kg
<b>Application Route</b>	:	Ingestion
<b>Exposure time</b>	:	90 Days

### 2-Furaldehyde:

<b>Species</b>	:	Rat
<b>NOAEL</b>	:	53 mg/kg
<b>Application Route</b>	:	Ingestion
<b>Exposure time</b>	:	13 Weeks

### Cinnamaldehyde:

<b>Species</b>	:	Rat
<b>NOAEL</b>	:	200 mg/kg
<b>Application Route</b>	:	Ingestion
<b>Exposure time</b>	:	12 Weeks

### Trans-hex-2-en-1-ol:

<b>Species</b>	:	Rat
<b>NOAEL</b>	:	> 100 mg/kg
<b>Application Route</b>	:	Ingestion
<b>Exposure time</b>	:	98 Days
<b>Remarks</b>	:	Based on data from similar materials

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### Acetaldehyde:

Species	:	Rat
NOAEL	:	125 mg/kg
LOAEL	:	675 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days

Species	:	Rat
NOAEL	:	0.3 mg/kg
LOAEL	:	1 mg/kg
Application Route	:	inhalation (vapour)
Exposure time	:	13 Weeks

### Aspiration toxicity

Not classified based on available information.

### Components:

#### **fenbendazole:**

||| No aspiration toxicity classification

### Experience with human exposure

### Components:

#### **fenbendazole:**

Ingestion	:	Symptoms: Rapid respiration, Salivation, anorexia, Diarrhoea
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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

### Components:

#### **fenbendazole:**

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.009 mg/l Exposure time: 21 d
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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
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M-Factor (Acute aquatic toxicity)	:	100
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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
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M-Factor (Chronic aquatic	:	10
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toxicity)

**Propylene glycol:**

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): 18,340 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Skeletonema costatum (marine diatom)): 19,300 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Ceriodaphnia dubia (water flea)): 13,020 mg/l Exposure time: 7 d
Toxicity to microorganisms	:	NOEC (Pseudomonas putida): > 20,000 mg/l Exposure time: 18 h

**Polyacrylic acid:**

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): > 1 mg/l Exposure time: 32 d Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials

**Ethanol:**

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 14,200 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Ceriodaphnia dubia (water flea)): 5,012 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Chlorella vulgaris (Fresh water algae)): 275 mg/l Exposure time: 72 h EC10 (Chlorella vulgaris (Fresh water algae)): 11.5 mg/l Exposure time: 72 h

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Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Japanese medaka)): >= 79 mg/l  
Exposure time: 100 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 9.6 mg/l  
Exposure time: 9 d

Toxicity to microorganisms : EC50 (Protozoa): 5,800 mg/l  
Exposure time: 4 h

### 2-Furaldehyde:

Toxicity to fish : EC50 (Leuciscus idus (Golden orfe)): 29 mg/l  
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 29 mg/l  
Exposure time: 24 h

Toxicity to algae/aquatic plants : NOEC (Microcystis aeruginosa (blue-green algae)): 2.7 mg/l  
Exposure time: 8 d

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 0.33 mg/l  
Exposure time: 12 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 1.9 mg/l  
Exposure time: 21 d  
Method: OECD Test Guideline 211

Toxicity to microorganisms : EC50: 760 mg/l  
Exposure time: 30 min  
Method: OECD Test Guideline 209

### Diethyl malonate:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 12 - 17 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 179 mg/l  
Exposure time: 48 h  
Method: Directive 67/548/EEC, Annex V, C.2.

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 800 mg/l  
Exposure time: 72 h  
EC10 (Desmodesmus subspicatus (green algae)): 115 mg/l  
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Pseudomonas putida): 3,097 mg/l  
Exposure time: 16 h  
Method: DIN 38 412 Part 8

### Cinnamaldehyde:

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Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 4.15 mg/l Exposure time: 96 h Method: Directive 67/548/EEC, Annex V, C.1.
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.21 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Chlorella vulgaris (Fresh water algae)): 16.09 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50: 71 mg/l Exposure time: 3 h Method: ISO 8192

### Isovaleraldehyde:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 3.25 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 177 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Desmodesmus subspicatus (green algae)): 137.37 mg/l Exposure time: 96 h  EC10 (Desmodesmus subspicatus (green algae)): 101.83 mg/l Exposure time: 96 h
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): 310 mg/l Exposure time: 17 h Method: DIN 38 412 Part 8

### Trans-hex-2-en-1-ol:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 163 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 226 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

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### Acetaldehyde:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 30.8 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 57.4 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
	:	EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

### Persistence and degradability

#### Components:

##### Propylene glycol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 98.3 % Exposure time: 28 d Method: OECD Test Guideline 301F
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##### Polyacrylic acid:

Biodegradability	:	Result: Not readily biodegradable. Remarks: Based on data from similar materials
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##### Ethanol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 84 % Exposure time: 20 d
------------------	---	---

##### 2-Furaldehyde:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 93.5 % Exposure time: 14 d
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##### Diethyl malonate:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 99 % Exposure time: 28 d Method: Regulation (EC) No. 440/2008, Annex, C.4-A
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Biodegradability

: Result: Readily biodegradable.  
Biodegradation: 100 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B**Isovaleraldehyde:**

Biodegradability

: Result: Not readily biodegradable.  
Biodegradation: 49.5 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D**Trans-hex-2-en-1-ol:**

Biodegradability

: Result: Readily biodegradable.  
Remarks: Based on data from similar materials**Acetaldehyde:**

Biodegradability

: Result: Readily biodegradable.  
Biodegradation: 80 %  
Exposure time: 14 d  
Method: OECD Test Guideline 301C**Bioaccumulative potential****Components:****fenbendazole:**

Partition coefficient: n-octanol/water

: log Pow: 3.32

**Propylene glycol:**

Partition coefficient: n-octanol/water

: log Pow: -1.07  
Method: Regulation (EC) No. 440/2008, Annex, A.8**Ethanol:**

Partition coefficient: n-octanol/water

: log Pow: -0.35

**2-Furaldehyde:**

Partition coefficient: n-octanol/water

: log Pow: 0.83  
Remarks: Calculation**Diethyl malonate:**

Partition coefficient: n-octanol/water

: log Pow: 0.96

**Cinnamaldehyde:**

Partition coefficient: n-octanol/water

: log Pow: 2.107

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### Isovaleraldehyde:

Partition coefficient: n-octanol/water : log Pow: 1.5

### Trans-hex-2-en-1-ol:

Partition coefficient: n-octanol/water : log Pow: 1.61  
Remarks: Calculation

### Acetaldehyde:

Partition coefficient: n-octanol/water : log Pow: 0.45

### Mobility in soil

### Components:

#### **fenbendazole:**

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

#### Ethanol:

Distribution among environmental compartments : log Koc: 0.2

### Hazardous to the ozone layer

Not applicable

### Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Dispose of in accordance with local regulations.  
Do not dispose of waste into sewer.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.  
If not otherwise specified: Dispose of as unused product.

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## 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

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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.

### National Regulations

Refer to section 15 for specific national regulation.

### 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.

ERG Code : 171

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## 15. REGULATORY INFORMATION

### Related Regulations

#### Fire Service Law

Not applicable to dangerous materials / designated flammables.

#### Chemical Substance Control Law

Priority Assessment Chemical Substance

Chemical name	Number
Propane-1,2-diol	106
Acrylic acid polymer	234
Acetaldehyde	26

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### Industrial Safety and Health Law

#### Harmful Substances Prohibited from Manufacture

Not applicable

#### Harmful Substances Required Permission for Manufacture

Not applicable

#### Substances Prevented From Impairment of Health

Not applicable

#### Circular concerning Information on Chemicals having Mutagenicity - Annex 2: Information on Existing Chemicals having Mutagenicity

Not applicable

#### Circular concerning Information on Chemicals having Mutagenicity - Annex 1: Information on Notified Substances having Mutagenicity

Not applicable

#### Substances Subject to be Notified Names

Law Article 57-2 (Ministerial Order Article 34-2 Appended Table 2)

Chemical name	Concentration (%)	Remarks
Propylene glycol	>=15 - <=15.16	From April 1st, 2025

#### Substances Subject to be Indicated Names

Law Article 57 (Ministerial Order Article 30 Appended Table 2)

Chemical name	Remarks
Propylene glycol	From April 1st, 2025

#### Skin and Eye Damage Substances (ISHL MO Art. 594-2)

Not applicable

#### Carcinogenic Substances (Article 577-2 of the Occupational Health and Safety Regulations)

Not applicable

#### Ordinance on Prevention of Hazards Due to Specified Chemical Substances

Not applicable

#### Ordinance on Prevention of Lead Poisoning

Not applicable

#### Ordinance on Prevention of Tetraalkyl Lead Poisoning

Not applicable

#### Ordinance on Prevention of Organic Solvent Poisoning

Not applicable

#### Enforcement Order of the Industrial Safety and Health Law - Attached table 1 (Dangerous Substances)

Not applicable

#### Poisonous and Deleterious Substances Control Law

Not applicable

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### Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the Environment and Promotion of Improvements to the Management Thereof

#### Class I Designated Chemical Substances

Chemical name	Administration number	Concentration (%)
Polymer of acrylic acid	565	1.0

#### High Pressure Gas Safety Act

Not applicable

#### Explosive Control Law

Not applicable

#### Vessel Safety Law

Miscellaneous dangerous substances and articles (Article 2 and 3 of rules on shipping and storage of dangerous goods and its Attached Table 1)

#### Aviation Law

Miscellaneous dangerous substances and articles (Article 194 of The Enforcement Rules of Aviation Law and its Attached Table 1)

#### Marine Pollution and Sea Disaster Prevention etc Law

Bulk transportation : Noxious liquid substance(Category Z)

Pack transportation : Classified as marine pollutant

#### Narcotics and Psychotropics Control Act

Narcotic or Psychotropic Raw Material (Export / Import Permission)

Not applicable

Specific Narcotic or Psychotropic Raw Material (Export / Import permission)

Not applicable

#### Waste Disposal and Public Cleansing Law

Industrial waste

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

AICS : not determined

DSL : not determined

IECSC : not determined

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## 16. OTHER INFORMATION

In this SDS, if the concentration of substances subject to notification under the Industrial Safety and Health Law is indicated as a range, it includes cases where it is a trade secret.

#### Further information

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

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

Date format : yyyy/mm/dd

**Full text of other abbreviations**

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
JP ISHL OEL 577-2(2)	: Concentration standard (Value set by the Minister of Health, Labour and Welfare stipulated under the Ministerial Ordinance Article 577-2(2))
JP OEL JSOH	: Japan. The Japan Society for Occupational Health. Recommendation of Occupational Exposure Limits
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
ACGIH / C	: Ceiling limit
JP ISHL OEL 577-2(2) / 8h-OEL-M	: 8-hour Occupational Exposure Limit-Mean
JP ISHL OEL 577-2(2) / ST-OEL-M	: Short-term Occupational Exposure Limit-Mean
JP OEL JSOH / OEL-M	: Occupational Exposure Limit-Mean
JP OEL JSOH / OEL-C	: Occupational Exposure Limit-Ceiling

AIIC - 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 Recom-

# SAFETY DATA SHEET



## Fenbendazole Paste Formulation

Version  
13.0

Revision Date:  
2025/06/17

SDS Number:  
887504-00027

Date of last issue: 2025/04/14  
Date of first issue: 2016/09/16

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mendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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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