

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name : Ivermectin (with Isopropyl Alcohol) Formulation

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Veterinary product

Recommended restrictions on use : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : MSD
Kilsheelan
Clonmel Tipperary, IE

Telephone : 353-51-601000

E-mail address of person responsible for the SDS : EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Flammable liquids, Category 3	H226: Flammable liquid and vapour.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341: Suspected of causing genetic defects.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Hazard pictograms

:



Signal word

:

Warning

Hazard statements

:

H226	Flammable liquid and vapour.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H341	Suspected of causing genetic defects.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements

:

Prevention:

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P391	Collect spillage.

Hazardous components which must be listed on the label:

Propan-2-ol

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version 9.0 Revision Date: 28.09.2024 SDS Number: 1497024-00026 Date of last issue: 06.07.2024
Date of first issue: 29.03.2017

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2-(2-Butoxyethoxy)ethanol	112-34-5 203-961-6 603-096-00-8	Eye Irrit. 2; H319	>= 50 - < 70
Propan-2-ol	67-63-0 200-661-7 603-117-00-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 30 - < 50
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	2386-87-0 219-207-4	Skin Sens. 1; H317 Muta. 2; H341 STOT RE 2; H373 (nasal cavity) Aquatic Chronic 3; H412	>= 1 - < 2.5
Ivermectin	70288-86-7 274-536-0	Acute Tox. 2; H300 Acute Tox. 3; H311 STOT SE 1; H370 (Central nervous system) STOT RE 1; H372 (Central nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	>= 0.25 - < 1
2,6-Di-tert-butyl-p-cresol	128-37-0 204-881-4	Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0.25 - < 1

For explanation of abbreviations see section 16.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

SECTION 4: First aid measures

4.1 Description of 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. |
| 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). |
| If inhaled | : | If inhaled, remove to fresh air.
Get medical attention. |
| In case of skin contact | : | In case of contact, immediately flush skin with 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 | : | In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention. |
| If swallowed | : | If swallowed, DO NOT induce vomiting.
Get medical attention.
Rinse mouth thoroughly with water. |

4.2 Most important symptoms and effects, both acute and delayed

- | | | |
|-------|---|---|
| Risks | : | May cause an allergic skin reaction.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing genetic defects. |
|-------|---|---|

4.3 Indication of any immediate medical attention and special treatment needed

- | | | |
|-----------|---|---|
| Treatment | : | Treat symptomatically and supportively. |
|-----------|---|---|

SECTION 5: Firefighting measures

5.1 Extinguishing media

- | | | |
|------------------------------|---|--|
| Suitable extinguishing media | : | Water spray
Alcohol-resistant foam
Carbon dioxide (CO ₂)
Dry chemical |
|------------------------------|---|--|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

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

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absor-
bent.

Local or national regulations may apply to releases and dis-
posal of this material, as well as those materials and items
employed in the cleanup of releases. You will need to deter-
mine which regulations are applicable.

Sections 13 and 15 of this SDS provide information regarding
certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- | | | |
|-------------------------|---|---|
| Technical measures | : | See Engineering measures under EXPOSURE
CONTROLS/PERSONAL PROTECTION section. |
| Local/Total ventilation | : | If sufficient ventilation is unavailable, use with local exhaust
ventilation.
Use explosion-proof electrical, ventilating and lighting equip-
ment. |
| Advice on safe handling | : | Do not get on skin or clothing.
Do not breathe mist or vapours.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety
practice, based on the results of the workplace exposure as-
sessment
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from heat, hot surfaces, sparks, open flames and
other ignition sources. No smoking.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the
environment. |
| Hygiene measures | : | 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. Contaminated
work clothing should not be allowed out of the workplace.
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. |

7.2 Conditions for safe storage, including any incompatibilities

- | | | |
|--------------------------|---|---|
| Requirements for storage | : | Keep in properly labelled containers. Store locked up. Keep |
|--------------------------|---|---|

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version 9.0 Revision Date: 28.09.2024 SDS Number: 1497024-00026 Date of last issue: 06.07.2024
Date of first issue: 29.03.2017

areas and containers tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Self-reactive substances and mixtures
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases
Very acutely toxic substances and mixtures

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-(2-Butoxyethoxy)ethanol	112-34-5	TWA	10 ppm 67.5 mg/m ³	2006/15/EC
	Further information: Indicative			
		STEL	15 ppm 101.2 mg/m ³	2006/15/EC
	Further information: Indicative			
		OELV - 8 hrs (TWA)	10 ppm 67.5 mg/m ³	IE OEL
		OELV - 15 min (STEL)	12 ppm 101.2 mg/m ³	IE OEL
Propan-2-ol	67-63-0	OELV - 8 hrs (TWA)	200 ppm	IE OEL
	Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body			
		OELV - 15 min (STEL)	400 ppm	IE OEL
	Further information: Substances which have the capacity to penetrate intact skin when they come in contact with it, and be absorbed into the body			
2,6-Di-tert-butyl-p-cresol	128-37-0	OELV - 8 hrs (TWA)	2 mg/m ³	IE OEL

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version 9.0 Revision Date: 28.09.2024 SDS Number: 1497024-00026 Date of last issue: 06.07.2024
Date of first issue: 29.03.2017

Ivermectin	70288-86-7	TWA	30 µg/m3 (OEB 3)	Internal
	Further information: Skin			
		Wipe limit	300 µg/100 cm2	Internal

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	Workers	Inhalation	Long-term systemic effects	0.18 mg/m3
	Workers	Inhalation	Long-term local effects	0.18 mg/m3
	Workers	Skin contact	Long-term systemic effects	0.05 mg/kg bw/day
Propan-2-ol	Workers	Inhalation	Long-term systemic effects	500 mg/m3
	Workers	Skin contact	Long-term systemic effects	888 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	89 mg/m3
	Consumers	Skin contact	Long-term systemic effects	319 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	26 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	67.5 mg/m3
2-(2-Butoxyethoxy)ethanol	Workers	Inhalation	Long-term local effects	67.5 mg/m3
	Workers	Inhalation	Acute local effects	101.2 mg/m3
	Workers	Skin contact	Long-term systemic effects	83 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	40.5 mg/m3
	Consumers	Inhalation	Long-term local effects	40.5 mg/m3
	Consumers	Inhalation	Acute local effects	60.7 mg/m3
	Consumers	Skin contact	Long-term systemic effects	50 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	5 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	3.5 mg/m3
2,6-Di-tert-butyl-p-cresol	Workers	Dermal	Long-term systemic effects	0.5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.86 mg/m3

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula-tion

Version 9.0 Revision Date: 28.09.2024 SDS Number: 1497024-00026 Date of last issue: 06.07.2024
Date of first issue: 29.03.2017

	Consumers	Dermal	Long-term systemic effects	0.25 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.25 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate	Fresh water	0.024 mg/l
	Freshwater - intermittent	0.24 mg/l
	Marine water	0.0024 mg/l
	Sewage treatment plant	19.5 mg/l
	Fresh water sediment	0.211 mg/kg dry weight (d.w.)
	Marine sediment	0.0211 mg/kg dry weight (d.w.)
	Soil	0.0282 mg/kg dry weight (d.w.)
Propan-2-ol	Fresh water	140.9 mg/l
	Marine water	140.9 mg/l
	Intermittent use/release	140.9 mg/l
	Sewage treatment plant	2251 mg/l
	Fresh water sediment	552 mg/kg dry weight (d.w.)
	Marine sediment	552 mg/kg dry weight (d.w.)
	Soil	28 mg/kg dry weight (d.w.)
2-(2-Butoxyethoxy)ethanol	Oral (Secondary Poisoning)	160 mg/kg food
	Fresh water	1.1 mg/l
	Freshwater - intermittent	11 mg/l
	Marine water	0.11 mg/l
	Sewage treatment plant	200 mg/l
	Fresh water sediment	4.4 mg/kg dry weight (d.w.)
	Marine sediment	0.44 mg/kg dry weight (d.w.)
2,6-Di-tert-butyl-p-cresol	Soil	0.32 mg/kg dry weight (d.w.)
	Secondary Poisoning	56 mg/kg food
	Fresh water	0.199 µg/l
	Intermittent use/release	0.02 µg/l
	Marine water	0.02 µg/l
	Sewage treatment plant	0.17 mg/l
	Fresh water sediment	0.0996 mg/kg dry weight (d.w.)
	Marine sediment	0.00996 mg/kg dry weight (d.w.)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula-tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

	Soil	0.04769 mg/kg dry weight (d.w.)
	Oral (Secondary Poisoning)	8.33 mg/kg food

8.2 Exposure controls

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.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).

Minimize open handling.

Use explosion-proof electrical, ventilating and lighting equipment.

Personal protective equipment

Eye/face 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.

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection.

Skin and body protection : Work uniform or laboratory coat.
Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces.
Use appropriate degowning techniques to remove potentially contaminated clothing.

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Equipment should conform to I.S. EN 14387

Filter type : Organic vapour type (A)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid

Colour : yellow

Odour : solvent-like

Odour Threshold : No data available

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Melting point/freezing point : No data available

Initial boiling point and boiling range : 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

Flash point : 28 °C

Auto-ignition temperature : No data available

Decomposition temperature : No data available

pH : No data available

Viscosity

Viscosity, kinematic : No data available

Solubility(ies)

Water solubility : No data available

Partition coefficient: n-octanol/water : Not applicable

Vapour pressure : No data available

Relative density : No data available

Density : 0.855 - 0.905 g/cm³

Relative vapour density : No data available

Particle characteristics

Particle size : Not applicable

9.2 Other information

Explosives : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Evaporation rate : No data available

Molecular weight : No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

2-(2-Butoxyethoxy)ethanol:

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Acute oral toxicity : LD50 (Mouse): 2,410 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 2,764 mg/kg

Propan-2-ol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 25 mg/l
Exposure time: 6 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Acute oral toxicity : LD50 (Rat, male): > 2,959 - 5,000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): >= 5.19 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Ivermectin:

Acute oral toxicity : LD50 (Rat): 50 mg/kg
LD50 (Mouse): 25 mg/kg
LD50 (Monkey): > 24 mg/kg
Target Organs: Central nervous system
Symptoms: Vomiting, Dilatation of the pupil
Remarks: No mortality observed at this dose.

Acute inhalation toxicity : LC50 (Rat): 5.11 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): 406 mg/kg
LD50 (Rat): > 660 mg/kg

2,6-Di-tert-butyl-p-cresol:

Acute oral toxicity : LD50 (Rat): > 6,000 mg/kg

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

	Method: OECD Test Guideline 401
Acute dermal toxicity	: LD50 (Rat): > 2,000 mg/kg Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:

2-(2-Butoxyethoxy)ethanol:

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

Propan-2-ol:

Species	: Rabbit
Result	: No skin irritation

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

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

Ivermectin:

Species	: Rabbit
Result	: No skin irritation

2,6-Di-tert-butyl-p-cresol:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation
Remarks	: Based on data from similar materials

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

2-(2-Butoxyethoxy)ethanol:

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

Propan-2-ol:

Species	: Rabbit
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

||Result : Irritation to eyes, reversing within 21 days

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

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

Ivermectin:

||Species : Rabbit
||Result : Mild eye irritation

2,6-Di-tert-butyl-p-cresol:

||Species : Rabbit
||Method : OECD Test Guideline 405
||Result : No eye irritation
||Remarks : Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Components:

2-(2-Butoxyethoxy)ethanol:

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

Propan-2-ol:

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

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

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

||Assessment : Probability or evidence of skin sensitisation in humans

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Ivermectin:

Exposure routes	: Dermal
Species	: Humans
Result	: Does not cause skin sensitisation.

2,6-Di-tert-butyl-p-cresol:

Test Type	: Human repeat insult patch test (HRIPT)
Exposure routes	: Skin contact
Species	: Humans
Result	: negative

Germ cell mutagenicity

Suspected of causing genetic defects.

Components:

2-(2-Butoxyethoxy)ethanol:

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

Propan-2-ol:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative Test Type: In vitro mammalian cell gene mutation test Result: negative
Genotoxicity in vivo	: Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Result: negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: positive
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

	Test Type: In vitro mammalian cell gene mutation test Result: positive
	Test Type: In vitro sister chromatid exchange assay in mam- malian cells Result: positive
	Test Type: DNA damage and repair, unscheduled DNA syn- thesis in mammalian cells (in vitro) Result: positive
Genotoxicity in vivo	: Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: Ingestion Method: OECD Test Guideline 486 Result: negative
	Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative
	Test Type: Transgenic rodent somatic cell gene mutation as- say Species: Mouse Application Route: Ingestion Method: OECD Test Guideline 488 Result: positive
Germ cell mutagenicity- As- sessment	: Positive result(s) from in vivo mammalian somatic cell muta- genicity tests.

Ivermectin:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	Test Type: DNA damage and repair, unscheduled DNA syn- thesis in mammalian cells (in vitro) Test system: human diploid fibroblasts Result: negative
	Test Type: Mouse Lymphoma Result: negative

2,6-Di-tert-butyl-p-cresol:

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Genotoxicity in vivo	:	Test Type: In vitro mammalian cell gene mutation test
	:	Result: negative
	:	Test Type: Chromosome aberration test in vitro
	:	Result: negative
:	:	Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
:	:	Species: Rat
:	:	Application Route: Ingestion
:	:	Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Propan-2-ol:

Species	:	Rat
Application Route	:	inhalation (vapour)
Exposure time	:	104 weeks
Method	:	OECD Test Guideline 451
Result	:	negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species	:	Mouse
Application Route	:	Skin contact
Exposure time	:	29 Months
Result	:	negative

Ivermectin:

Species	:	Rat
Application Route	:	Oral
NOAEL	:	1.5 mg/kg body weight
Result	:	negative
Remarks	:	Based on data from similar materials

Species	:	Mouse
Application Route	:	Oral
NOAEL	:	2.0 mg/kg body weight
Result	:	negative
Remarks	:	Based on data from similar materials

2,6-Di-tert-butyl-p-cresol:

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	22 Months
Result	:	negative

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Reproductive toxicity

Not classified based on available information.

Components:

2-(2-Butoxyethoxy)ethanol:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Method: OECD Test Guideline 415 Result: negative
Effects on foetal develop- ment	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

Propan-2-ol:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
Effects on foetal develop- ment	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Effects on foetal develop- ment	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Method: OECD Test Guideline 414 Result: negative
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Ivermectin:

Effects on fertility	:	Test Type: Fertility Species: Rat Application Route: Oral Fertility: NOAEL: 0.6 mg/kg body weight Result: Animal testing did not show any effects on fertility.
Effects on foetal develop- ment	:	Test Type: Development Species: Mouse Application Route: Oral Developmental Toxicity: NOAEL: 0.2 mg/kg body weight Result: Teratogenic effects, Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Test Type: Development
Species: Rat
Application Route: Oral
Developmental Toxicity: LOAEL: 0.4 mg/kg body weight
Result: Embryotoxic effects and adverse effects on the off-
spring were detected.
Remarks: The mechanism or mode of action may not be rele-
vant in humans.

Test Type: Development
Species: Rabbit
Application Route: Oral
Result: Teratogenic effects, Embryotoxic effects and adverse
effects on the offspring were detected only at high maternally
toxic doses

2,6-Di-tert-butyl-p-cresol:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal develop- : Test Type: Embryo-foetal development
ment Species: Rat
Application Route: Ingestion
Result: negative

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Propan-2-ol:

Assessment : May cause drowsiness or dizziness.

Ivermectin:

Target Organs : Central nervous system
Assessment : Causes damage to organs.

STOT - repeated exposure

Not classified based on available information.

Components:

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Exposure routes : Ingestion
Target Organs : nasal cavity
Assessment : Shown to produce significant health effects in animals at con-
centrations of >10 to 100 mg/kg bw.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Ivermectin:

Target Organs	: Central nervous system
Assessment	: Causes damage to organs through prolonged or repeated exposure.

2,6-Di-tert-butyl-p-cresol:

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

Components:

2-(2-Butoxyethoxy)ethanol:

Species	: Rat
NOAEL	: 250 mg/kg
LOAEL	: 1,000 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OECD Test Guideline 408

Species	: Rat
NOAEL	: ≥ 0.094 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 90 Days
Method	: OECD Test Guideline 413

Species	: Rat
NOAEL	: $\geq 2,000$ mg/kg
Application Route	: Skin contact
Exposure time	: 90 Days

Propan-2-ol:

Species	: Rat
NOAEL	: 12.5 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 104 Weeks

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Species	: Rat
NOAEL	: 5 mg/kg
LOAEL	: 50 mg/kg
Application Route	: Ingestion
Exposure time	: 90 Days
Method	: OECD Test Guideline 408

Ivermectin:

Species	: Dog
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

NOAEL	: 0.5 mg/kg
LOAEL	: 1 mg/kg
Application Route	: Oral
Exposure time	: 14 Weeks
Target Organs	: Central nervous system
Symptoms	: Dilatation of the pupil, Tremors, Lack of coordination, anorexia

Species	: Monkey
NOAEL	: 1.2 mg/kg
Application Route	: Oral
Exposure time	: 2 Weeks
Remarks	: No significant adverse effects were reported

Species	: Rat
NOAEL	: 0.4 mg/kg
LOAEL	: 0.8 mg/kg
Application Route	: Oral
Exposure time	: 3 Months
Target Organs	: spleen, Bone marrow, Kidney

2,6-Di-tert-butyl-p-cresol:

Species	: Rat
NOAEL	: 25 mg/kg
Application Route	: Ingestion
Exposure time	: 22 Months

Aspiration toxicity

Not classified based on available information.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment	: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
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Experience with human exposure

Components:

Ivermectin:

Skin contact	: Remarks: Can be absorbed through skin.
Eye contact	: Remarks: May irritate eyes.
Ingestion	: Symptoms: Drowsiness, Dilatation of the pupil, Tremors, Vomiting, anorexia, Lack of coordination

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

SECTION 12: Ecological information

12.1 Toxicity

Components:

2-(2-Butoxyethoxy)ethanol:

Toxicity to fish	: LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,300 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 NOEC (Desmodesmus subspicatus (green algae)): >= 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to microorganisms	: EC10 : > 1,995 mg/l Exposure time: 30 min

Propan-2-ol:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 9,640 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 24 h
Toxicity to microorganisms	: EC50 (Pseudomonas putida): > 1,050 mg/l Exposure time: 16 h

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 24 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 40 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	: ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 110 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

		NOEC (Raphidocelis subcapitata (freshwater green alga)): 30 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC10 (activated sludge): 409 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Ivermectin:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 0.003 mg/l Exposure time: 96 h LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.0048 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.000025 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 9.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 9.1 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10,000
M-Factor (Chronic aquatic toxicity)	:	10,000

2,6-Di-tert-butyl-p-cresol:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 0.57 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)): 0.48 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.24 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0.24

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

	mg/l
	Exposure time: 72 h
	Method: OECD Test Guideline 201
M-Factor (Acute aquatic tox- icity)	: 1
Toxicity to microorganisms	: EC50 : > 10,000 mg/l
	Exposure time: 3 h
	Method: OECD Test Guideline 209
Toxicity to fish (Chronic tox- icity)	: NOEC: 0.053 mg/l
	Exposure time: 30 d
	Species: Oryzias latipes (Japanese medaka)
	Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chron- ic toxicity)	: NOEC: 0.316 mg/l
	Exposure time: 21 d
	Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	: 1

12.2 Persistence and degradability

Components:

2-(2-Butoxyethoxy)ethanol:

Biodegradability	: Result: Readily biodegradable.
	Biodegradation: 85 %
	Exposure time: 28 d
	Method: OECD Test Guideline 301C

Propan-2-ol:

Biodegradability	: Result: rapidly degradable
BOD/COD	: BOD: 1,19 (BOD5)
	COD: 2,23
	BOD/COD: 53 %

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Biodegradability	: Result: Not readily biodegradable.
	Biodegradation: 71 %
	Exposure time: 28 d
	Method: OECD Test Guideline 301B

Ivermectin:

Biodegradability	: Result: Not readily biodegradable.
	Biodegradation: 50 %
	Exposure time: 240 d

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

II

2,6-Di-tert-butyl-p-cresol:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 4.5 %
Exposure time: 28 d
Method: OECD Test Guideline 301C

12.3 Bioaccumulative potential

Components:

2-(2-Butoxyethoxy)ethanol:

Partition coefficient: n-octanol/water : log Pow: 1

Propan-2-ol:

Partition coefficient: n-octanol/water : log Pow: 0.05

7-Oxabicyclo[4.1.0]hept-3-ylmethyl 7-oxabicyclo[4.1.0]heptane-3-carboxylate:

Partition coefficient: n-octanol/water : log Pow: 1.34
Method: OECD Test Guideline 107

Ivermectin:

Bioaccumulation : Bioconcentration factor (BCF): 74

Partition coefficient: n-octanol/water : log Pow: 3.22

2,6-Di-tert-butyl-p-cresol:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 330 - 1,800

Partition coefficient: n-octanol/water : log Pow: 5.1

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product	: Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.
Contaminated packaging	: Empty containers should be taken to an approved waste handling site for recycling or disposal. Empty containers retain residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	: UN 1993
ADR	: UN 1993
RID	: UN 1993
IMDG	: UN 1993
IATA	: UN 1993

14.2 UN proper shipping name

ADN	: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
ADR	: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
RID	: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol)
IMDG	: FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Ivermectin, 2,6-Di-tert-butyl-p-cresol)
IATA	: Flammable liquid, n.o.s.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

(Propan-2-ol)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADN	: 3	
ADR	: 3	
RID	: 3	
IMDG	: 3	
IATA	: 3	

14.4 Packing group

ADN	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3
ADR	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3
Tunnel restriction code	: (D/E)
RID	
Packing group	: III
Classification Code	: F1
Hazard Identification Number	: 30
Labels	: 3
IMDG	
Packing group	: III
Labels	: 3
EmS Code	: F-E, <u>S-E</u>
IATA (Cargo)	
Packing instruction (cargo aircraft)	: 366
Packing instruction (LQ)	: Y344
Packing group	: III
Labels	: Flammable Liquids
IATA (Passenger)	
Packing instruction (passenger aircraft)	: 355
Packing instruction (LQ)	: Y344
Packing group	: III
Labels	: Flammable Liquids

14.5 Environmental hazards

ADN

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Environmentally hazardous : yes

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes

14.6 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.

14.7 Maritime transport in bulk according to IMO instruments

Remarks : Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:
Number on list 3

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Number on list 55: 2-(2-Butoxyethoxy)ethanol

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

Regulation (EC) on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

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

AICS : not determined

DSL : not determined

IECSC : not determined

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H300	: Fatal if swallowed.
H311	: Toxic in contact with skin.
H317	: May cause an allergic skin reaction.
H319	: Causes serious eye irritation.
H336	: May cause drowsiness or dizziness.
H341	: Suspected of causing genetic defects.
H370	: Causes damage to organs if swallowed.
H372	: Causes damage to organs through prolonged or repeated exposure if swallowed.
H373	: May cause damage to organs through prolonged or repeated exposure.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended by
Commission Regulation (EU) 2020/878



Ivermectin (with Isopropyl Alcohol) Formula- tion

Version	Revision Date:	SDS Number:	Date of last issue: 06.07.2024
9.0	28.09.2024	1497024-00026	Date of first issue: 29.03.2017

H412 : Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Eye Irrit.	: Eye irritation
Flam. Liq.	: Flammable liquids
Muta.	: Germ cell mutagenicity
Skin Sens.	: Skin sensitisation
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
2006/15/EC	: Europe. Indicative occupational exposure limit values
IE OEL	: Ireland. List of Chemical Agents and Carcinogens with Occu- pational Exposure Limit Values - Code of Practice, Schedule 1 and 2
2006/15/EC / TWA	: Limit Value - eight hours
2006/15/EC / STEL	: Short term exposure limit
IE OEL / OELV - 8 hrs (TWA)	: Occupational exposure limit value (8-hour reference period)
IE OEL / OELV - 15 min (STEL)	: Occupational exposure limit value (15-minute reference peri- od)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI -

SAFETY DATA SHEET

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Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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/>

Classification of the mixture:

Flam. Liq. 3	H226
Eye Irrit. 2	H319
Skin Sens. 1	H317
Muta. 2	H341
STOT SE 3	H336
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method
Calculation method

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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