

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Abamectin (0.6%) Liquid Formulation

Other means of identification : COOPERS MAVERICK POUR ON FOR SHEEP (61710)

Manufacturer or supplier's details

Company : MSD

Address : 126 E. Lincoln Avenue
Rahway, New Jersey U.S.A. 07065

Telephone : 908-740-4000

Emergency telephone number : 1-908-423-6000

E-mail address : EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product

Restrictions on use : Not applicable

2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irritation : Category 2A

Specific target organ toxicity - repeated exposure : Category 2 (Central nervous system)

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :   

Signal word : Warning

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Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

Hazard statements : H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P260 Do not breathe mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear 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.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/ attention if you feel unwell.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P391 Collect spillage.

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)
Polyalkylene oxide derivative of a synthetic alcohol	103818-93-5	>= 30 -< 60
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2	>= 0.5 -< 1
1-[1,3-Bis(hydroxymethyl)-2,5-dioximidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea	78491-02-8	>= 0.025 -< 0.25

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

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Version	Revision Date:	SDS Number:	Date of last issue:
3.0	2025/04/14	10852997-00005	2023/11/27
			Date of first issue: 2022/09/15

If inhaled	: advice. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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	: 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.
Most important symptoms and effects, both acute and delayed	: Causes serious eye irritation. Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure.
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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) 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
Specific extinguishing methods	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.
Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

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

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
- 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 assessment
Keep container tightly closed.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labelled containers.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	71751-41-2	TWA	15 µg/m ³ (OEB 3)	Internal
		Wipe limit	150 µg/100 cm ²	Internal

Engineering measures : Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., drip-less quick connections).
All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.
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.

Personal protective equipment

Respiratory protection : If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type : Particulates type

Hand protection

Material : Chemical-resistant gloves

Remarks : Consider double gloving.

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.
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.

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.

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	clear
		dark blue
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity	:	
Viscosity, kinematic	:	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	:	Not applicable

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.

11. TOXICOLOGICAL INFORMATION

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

Harmful if inhaled.

Product:

Acute oral toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 3.83 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

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Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

Components:**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Acute oral toxicity	:	LD50 (Rat): 24 mg/kg
		LD50 (Mouse): 10 mg/kg
		LDLo (Monkey): 24 mg/kg
		Symptoms: Dilatation of the pupil
Acute inhalation toxicity	:	LC50 (Rat): 0.023 mg/l
		Exposure time: 4 h
		Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat): 330 mg/kg
		LD50 (Rabbit): 2,000 mg/kg

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg
		Method: OPPTS 870.1100
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg
		Method: OPPTS 870.1200
		Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Not classified based on available information.

Components:**Polyalkylene oxide derivative of a synthetic alcohol:**

Species	:	reconstructed human epidermis (RhE)
Method	:	OECD Test Guideline 439
Result	:	No skin irritation

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species	:	Rabbit
Result	:	No skin irritation

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Species	:	Rabbit
Result	:	No skin irritation

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:**Polyalkylene oxide derivative of a synthetic alcohol:**

Species	: Bovine cornea
Method	: OECD Test Guideline 437
Result	: Irritation to eyes, reversing within 21 days

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Species	: Rabbit
Result	: Mild eye irritation

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Species	: Rabbit
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:**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Test Type	: Maximisation Test
Exposure routes	: Skin contact
Result	: Not a skin sensitizer.

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

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

Assessment	: Probability or evidence of skin sensitisation in humans
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Germ cell mutagenicity

Not classified based on available information.

Components:**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Genotoxicity in vitro	: Test Type: Bacterial reverse mutation assay (AMES) Result: negative
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Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	2025/04/14	10852997-00005	2023/11/27
			Date of first issue: 2022/09/15

Genotoxicity in vivo	:	Test Type: In vitro mammalian cell gene mutation test
		Test system: Chinese hamster lung cells
		Result: negative
		Test Type: Alkaline elution assay
		Result: negative
	:	Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
		Species: Mouse
		Application Route: Intraperitoneal injection
		Result: negative

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

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: positive
		Test Type: Chromosome aberration test in vitro
		Result: negative
		Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
		Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
		Species: Mouse
		Application Route: Ingestion
		Result: negative
		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

Carcinogenicity

Not classified based on available information.

Components:**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Species	:	Rat
Application Route	:	Oral
Exposure time	:	105 weeks

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

Result : negative

Species : Mouse
Application Route : Oral
Exposure time : 93 weeks
Result : negative

Reproductive toxicity

Not classified based on available information.

Components:**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Effects on fertility	: Test Type: Fertility Species: Rat, male Application Route: Oral Result: Effects on fertility Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Oral Early Embryonic Development: NOAEL: 0.12 mg/kg body weight Result: Fetotoxicity
Effects on foetal development	: Test Type: Embryo-foetal development Species: Mouse Application Route: Oral General Toxicity Maternal: NOAEL: 0.05 mg/kg body weight Developmental Toxicity: NOAEL: 0.2 mg/kg body weight Result: Cleft palate Remarks: Adverse developmental effects were observed Test Type: Embryo-foetal development Species: Rabbit Application Route: Oral Developmental Toxicity: LOAEL: 2 mg/kg body weight Result: Cleft palate, Teratogenic effects, Reduced embryonic survival Remarks: Adverse developmental effects were observed Test Type: Development Species: Rat Application Route: Oral Developmental Toxicity: LOAEL: 1.6 mg/kg body weight Result: Teratogenic effects
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.

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

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

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Components:**abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

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

Repeated dose toxicity**Components:****abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Species	:	Rat
NOAEL	:	1.5 mg/kg
Application Route	:	Oral
Exposure time	:	24 Months
Target Organs	:	Central nervous system
Symptoms	:	Tremors, ataxia

Species	:	Mouse
NOAEL	:	4.0 mg/kg
Application Route	:	Oral
Exposure time	:	24 Months
Target Organs	:	Central nervous system
Symptoms	:	Tremors, ataxia

Species	:	Dog
NOAEL	:	0.25 mg/kg
LOAEL	:	0.5 mg/kg
Application Route	:	Oral
Exposure time	:	53 Weeks
Target Organs	:	Central nervous system
Symptoms	:	Tremors, weight loss
Remarks	:	mortality observed

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

Species	: Monkey
NOAEL	: 1.0 mg/kg
Application Route	: Oral
Exposure time	: 14 Weeks
Target Organs	: Central nervous system

1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Species	: Rat
NOAEL	: 200 mg/kg
Application Route	: Ingestion
Exposure time	: 92 Days

Aspiration toxicity

Not classified based on available information.

Experience with human exposure**Components:****abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Ingestion	: Symptoms: May cause, Tremors, Diarrhoea, central nervous system effects, Salivation, tearing
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12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****Polyalkylene oxide derivative of a synthetic alcohol:**

Toxicity to fish	: LC50 : > 1 - 10 mg/l Exposure time: 96 h Remarks: Based on data from similar materials
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 3.2 mg/l Exposure time: 48 h Method: OECD Test Guideline 202

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 3.2 µg/l Exposure time: 96 h LC50 (Lepomis macrochirus (Bluegill sunfish)): 9.6 µg/l Exposure time: 96 h LC50 (Ictalurus punctatus (channel catfish)): 24 µg/l Exposure time: 96 h LC50 (Cyprinus carpio (Carp)): 42 µg/l Exposure time: 96 h
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Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	2025/04/14	10852997-00005	2023/11/27
			Date of first issue: 2022/09/15

		LC50 (Cyprinodon variegatus (sheepshead minnow)): 15 µg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Americamysis): 0.022 µg/l Exposure time: 96 h
		EC50 (Daphnia magna (Water flea)): 0.34 µg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 100 mg/l Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10,000
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 0.52 µg/l Exposure time: 32 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.03 µg/l Exposure time: 21 d
		NOEC (Mysidopsis bahia (opossum shrimp)): 0.0035 µg/l Exposure time: 28 d
M-Factor (Chronic aquatic toxicity)	:	10,000
Toxicity to microorganisms	:	EC50: > 1,000 mg/l Exposure time: 3 h Test Type: Respiration inhibition

1-[1,3-Bis(hydroxymethyl)-2,5-dioximidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): > 67 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 58 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (green algae)): 5.78 mg/l Exposure time: 72 h Method: Regulation (EC) No. 440/2008, Annex, C.3
		NOEC (Pseudokirchneriella subcapitata (green algae)): 1.6 mg/l Exposure time: 72 h Method: Regulation (EC) No. 440/2008, Annex, C.3
Toxicity to microorganisms	:	EC50 (activated sludge): 567 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue:
3.0	2025/04/14	10852997-00005	2023/11/27
			Date of first issue: 2022/09/15

Persistence and degradability**Components:****Polyalkylene oxide derivative of a synthetic alcohol:**

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

abamectin (combination of avermectin B1a and avermectin B1b) (ISO):

Stability in water	:	Hydrolysis: 50 %(< 12 h)
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1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Biodegradability	:	Result: Not readily biodegradable.
		Biodegradation: 24 %
		Exposure time: 28 d
		Method: Directive 67/548/EEC Annex V, C.4.C.

Bioaccumulative potential**Components:****abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Bioaccumulation	:	Bioconcentration factor (BCF): 52
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Partition coefficient: n-octanol/water	:	log Pow: 4
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1-[1,3-Bis(hydroxymethyl)-2,5-dioxoimidazolidin-4-yl]-1,3-bis(hydroxymethyl)urea:

Partition coefficient: n-octanol/water	:	log Pow: < 0.9
		Method: OECD Test Guideline 117

Mobility in soil**Components:****abamectin (combination of avermectin B1a and avermectin B1b) (ISO):**

Distribution among environmental compartments	:	log Koc: > 3.6
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Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS**Disposal methods**

Waste from residues	:	Do not dispose of waste into sewer.
		Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty containers should be taken to an approved waste handling site for recycling or disposal.
		If not otherwise specified: Dispose of as unused product.

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

14. TRANSPORT INFORMATION**International Regulations****UNRTDG**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO))
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	no

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO))
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (abamectin (combination of avermectin B1a and avermectin B1b) (ISO))
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.

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.

Abamectin (0.6%) Liquid Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 2023/11/27
3.0	2025/04/14	10852997-00005	Date of first issue: 2022/09/15

15. REGULATORY INFORMATION

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

Minister of Industry Regulation No. 23/M-IND/PER/4/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PER/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.

Regulation of the Minister of Health No. 472 of 1996 on the Safeguarding of Substances Hazardous to Health

Hazardous substances that must be registered : Not applicable

Government Regulation No. 74 of 2001 on the Management of Hazardous and Toxic Substances

Hazardous substances approved for use : Not applicable

Prohibited substances : Not applicable

Restricted substances : Not applicable

Regulation of the Ministry of Trade No. 7 of 2022 on Distribution and Control of Hazardous Materials

Type of hazardous materials subject to distribution and control, Annex I : Not applicable

Type of hazardous materials subject to distribution and control, Annex II : Not applicable

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

AICS : not determined

DSL : not determined

IECSC : not determined

16. OTHER INFORMATION

Revision Date : 2025/04/14

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/>

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

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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 Recommendations 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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