

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formulation

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

SECTION 1. IDENTIFICATION

Product name : Abamectin (with Propylene Glycol) Formulation
Other means of identification : No data available

Manufacturer or supplier's details

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

Recommended use of the chemical and restrictions on use




Recommended use : Veterinary product
Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations

Flammable liquids : Category 2
Acute toxicity (Inhalation) : Category 4
Eye irritation : Category 2A
Reproductive toxicity : Category 2
Specific target organ toxicity : Category 1 (Central nervous system)
- repeated exposure (Oral)
Specific target organ toxicity : Category 2 (Central nervous system)
- repeated exposure

GHS label elements

| | | |
|-------------------|---|---|
| Hazard pictograms | : |    |
| Signal Word | : | Danger |
| Hazard Statements | : | H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation. H332 Harmful if inhaled. H361fd Suspected of damaging fertility. Suspected of damaging the unborn child. H372 Causes damage to organs (Central nervous system) through prolonged or repeated exposure if swallowed. |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

Version 4.0 Revision Date: 06/18/2025 SDS Number: 4795013-00014 Date of last issue: 04/14/2025
Date of first issue: 08/29/2019

H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves, protective clothing, eye protection and face protection.

Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a 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.
P308 + P313 IF exposed or concerned: Get medical attention.
P337 + P313 If eye irritation persists: Get medical attention.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards

Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

| Chemical name | Common Name/Synonym | CAS-No. | Concentration (% w/w) |
|--|---------------------|------------|-----------------------|
| Propylene glycol | 1,2-Propanediol | 57-55-6 | ≥ 30 - < 60 * |
| 1,3-Dioxan-5-ol | No data available | 4740-78-7 | ≥ 30 - < 60 * |
| Butanone | Ethyl methyl ketone | 78-93-3 | ≥ 10 - < 30 * |
| abamectin (combination of avermectin B1a | No data available | 71751-41-2 | ≥ 1 - < 5 * |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula- tion

| | | | |
|----------------|------------------------------|------------------------------|---|
| Version 4.0 | Revision Date: 06/18/2025 | SDS Number: 4795013-00014 | Date of last issue: 04/14/2025 Date of first issue: 08/29/2019 |
|----------------|------------------------------|------------------------------|---|

and avermectin B1b)
(ISO)

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

SECTION 4. FIRST AID MEASURES

- | | |
|---|---|
| General advice | : In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice. |
| If inhaled | : If inhaled, remove to fresh air. 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. If vomiting occurs have person lean forward. Call a physician or poison control center immediately. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects, both acute and delayed | : Causes serious eye irritation. Harmful if inhaled. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to organs through prolonged or repeated exposure if swallowed. 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. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | |
|--------------------------------|--|
| Suitable extinguishing media | : Water spray Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical |
| Unsuitable extinguishing media | : High volume water jet |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula- tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

- | | | |
|--|---|---|
| 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. Vapors may form explosive mixtures with air. 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 fire-fighters | : | In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

- | | | |
|---|---|---|
| Personal precautions, protective equipment and emergency procedures | : | Remove all sources of ignition. Ventilate the area. 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 | : | Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapors/mists with a water spray jet. For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

Version 4.0 Revision Date: 06/18/2025 SDS Number: 4795013-00014 Date of last issue: 04/14/2025
Date of first issue: 08/29/2019

SECTION 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.
Use explosion-proof electrical, ventilating and lighting equipment.
- Advice on safe handling : Do not breathe mist or vapors.
Do not swallow.
Do not get in eyes.
Avoid prolonged or repeated contact with skin.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
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.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
Store locked up.
Keep 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.
- Materials to avoid : 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

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Components | CAS-No. | Value type (Form of | Control parame- ters / Permissible | Basis |
|------------|---------|------------------------|---------------------------------------|-------|
|------------|---------|------------------------|---------------------------------------|-------|

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

Version 4.0 Revision Date: 06/18/2025 SDS Number: 4795013-00014 Date of last issue: 04/14/2025
Date of first issue: 08/29/2019

| | | exposure) | concentration | |
|--|------------|----------------------------|----------------------------------|-----------|
| Propylene glycol | 57-55-6 | TWA (Va-pour and aerosols) | 50 ppm 155 mg/m ³ | CA ON OEL |
| | | TWA (aero-sol) | 10 mg/m ³ | CA ON OEL |
| Butanone | 78-93-3 | TWA | 200 ppm 590 mg/m ³ | CA AB OEL |
| | | STEL | 300 ppm 885 mg/m ³ | CA AB OEL |
| | | TWA | 50 ppm | CA BC OEL |
| | | STEL | 100 ppm | CA BC OEL |
| | | TWAEV | 50 ppm 150 mg/m ³ | CA QC OEL |
| | | STEV | 100 ppm 300 mg/m ³ | CA QC OEL |
| | | TWA | 75 ppm | ACGIH |
| | | STEL | 150 ppm | ACGIH |
| 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 |

Biological occupational exposure limits

| Components | CAS-No. | Control parameters | Biological specimen | Sam-pling time | Permissible concentra-tion | Basis |
|------------|---------|---------------------|---------------------|--|----------------------------|-----------|
| Butanone | 78-93-3 | methyl ethyl ketone | Urine | End of shift (As soon as possible after exposure ceases) | 2 mg/l | ACGIH BEI |

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

Respiratory protection : If adequate local exhaust ventilation is not available or

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|----------------|------------------------------|------------------------------|---|
| Version 4.0 | Revision Date: 06/18/2025 | SDS Number: 4795013-00014 | Date of last issue: 04/14/2025 Date of first issue: 08/29/2019 |
|----------------|------------------------------|------------------------------|---|

| | |
|--------------------------|--|
| Filter type | : exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. |
| Hand protection | : Combined particulates and organic vapor type |
| Material | : Chemical-resistant gloves |
| Remarks | : Consider double gloving. Take note that the product is flammable, which may impact the selection of hand protection. |
| 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. Wash contaminated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls. |

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|----------------------------|
| Appearance | : liquid |
| Color | : Colorless to pale yellow |
| Odor | : characteristic |
| Odor Threshold | : No data available |
| pH | : No data available |
| Melting point/freezing point | : < -66 °C |
| Initial boiling point and boiling range | : 82 °C |
| Flash point | : 16 °C |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|----------------|------------------------------|------------------------------|---|
| Version 4.0 | Revision Date: 06/18/2025 | SDS Number: 4795013-00014 | Date of last issue: 04/14/2025 Date of first issue: 08/29/2019 |
|----------------|------------------------------|------------------------------|---|

| | | |
|--|---|--|
| Evaporation rate | : | No data available |
| Flammability (solid, gas) | : | Not applicable |
| Flammability (liquids) | : | Not applicable |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower flammability limit | : | No data available |
| Vapor pressure | : | No data available |
| Relative vapor density | : | No data available |
| Relative density | : | 1.05 - 1.09 |
| Density | : | No data available |
| Solubility(ies) | | |
| Water solubility | : | slightly soluble |
| Solubility in other solvents | : | soluble Solvent: Ethanol |
| Partition coefficient: n-octanol/water | : | Not applicable |
| Autoignition 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 |

SECTION 10. STABILITY AND REACTIVITY

| | | |
|------------------------------------|---|---|
| Reactivity | : | Not classified as a reactivity hazard. |
| Chemical stability | : | Stable under normal conditions. |
| Possibility of hazardous reactions | : | Highly flammable liquid and vapor. Vapors may form explosive mixture with air. |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

Can react with strong oxidizing agents.

| | | |
|----------------------------------|---|--|
| Conditions to avoid | : | Heat, flames and sparks. |
| Incompatible materials | : | Oxidizing agents |
| Hazardous decomposition products | : | No hazardous decomposition products are known. |

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Harmful if inhaled.

Product:

| | | |
|---------------------------|---|---|
| Acute oral toxicity | : | Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method |
| Acute inhalation toxicity | : | Acute toxicity estimate: 2.3 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 |

Components:

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 |

1,3-Dioxan-5-ol:

| | | |
|-----------------------|---|--|
| Acute oral toxicity | : | LD50 (Rat): > 5,000 mg/kg |
| Acute dermal toxicity | : | LD50 (Rat): > 2,000 mg/kg Remarks: Based on data from similar materials |

Butanone:

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

| | |
|---------------------------|---|
| Acute oral toxicity | : LD50 (Rat): > 2,000 - 5,000 mg/kg Remarks: Based on data from similar materials |
| Acute inhalation toxicity | : LC50 (Rat): > 25.5 mg/l Exposure time: 4 h Test atmosphere: vapor Method: OECD Test Guideline 436 Remarks: Based on data from similar materials |
| Acute dermal toxicity | : LD50 (Rabbit): > 5,000 mg/kg |

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 |

Skin corrosion/irritation

Not classified based on available information.

Components:

Propylene glycol:

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

1,3-Dioxan-5-ol:

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

Butanone:

| | |
|------------|---|
| Assessment | : Repeated exposure may cause skin dryness or cracking. |
|------------|---|

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

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

| | |
|---------|----------------------|
| Species | : Rabbit |
| Result | : No skin irritation |

Serious eye damage/eye irritation

Causes serious eye irritation.

Components:

Propylene glycol:

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

1,3-Dioxan-5-ol:

| | |
|---------|--|
| Species | : Rabbit |
| Result | : Irritation to eyes, reversing within 21 days |
| Method | : OECD Test Guideline 405 |
| Remarks | : Based on data from similar materials |

Butanone:

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

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

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

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Components:

Propylene glycol:

| | |
|--------------------|---------------------|
| Test Type | : Maximization Test |
| Routes of exposure | : Skin contact |
| Species | : Guinea pig |
| Result | : negative |

1,3-Dioxan-5-ol:

| | |
|-----------|---------------------|
| Test Type | : Maximization Test |
|-----------|---------------------|

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

| | | |
|--------------------|---|--------------------------------------|
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | negative |
| Remarks | : | Based on data from similar materials |

Butanone:

| | | |
|--------------------|---|-------------------------|
| Test Type | : | Buehler Test |
| Routes of exposure | : | Skin contact |
| Species | : | Guinea pig |
| Method | : | OECD Test Guideline 406 |
| Result | : | negative |

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

| | | |
|--------------------|---|------------------------|
| Test Type | : | Maximization Test |
| Routes of exposure | : | Skin contact |
| Result | : | Not a skin sensitizer. |

Germ cell mutagenicity

Not classified based on available information.

Components:

Propylene glycol:

| | | |
|-----------------------|---|---|
| Genotoxicity in vitro | : | Test Type: Bacterial reverse mutation assay (AMES) Result: negative 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 |

1,3-Dioxan-5-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 Result: negative Remarks: Based on data from similar materials |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

Version 4.0 Revision Date: 06/18/2025 SDS Number: 4795013-00014 Date of last issue: 04/14/2025
Date of first issue: 08/29/2019

Butanone:

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

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

Test Type: Saccharomyces cerevisiae, gene mutation assay (in vitro)
Result: negative

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

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

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

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster lung cells
Result: negative

Test Type: Alkaline elution assay
Result: negative

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

Carcinogenicity

Not classified based on available information.

Components:

Propylene glycol:

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

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

| | |
|-------------------|-------------|
| Species | : Rat |
| Application Route | : Oral |
| Exposure time | : 105 weeks |
| Result | : negative |

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

Reproductive toxicity

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

Components:

Propylene glycol:

| | |
|------------------------------|---|
| Effects on fertility | : Test Type: Two-generation reproduction toxicity study Species: Mouse Application Route: Ingestion Result: negative |
| Effects on fetal development | : Test Type: Embryo-fetal development Species: Mouse Application Route: Ingestion Result: negative |

Butanone:

| | |
|------------------------------|--|
| Effects on fertility | : Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative Remarks: Based on data from similar materials |
| Effects on fetal development | : Test Type: Embryo-fetal development Species: Rat Application Route: Inhalation Method: OECD Test Guideline 414 Result: negative |

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 |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

Version 4.0 Revision Date: 06/18/2025 SDS Number: 4795013-00014 Date of last issue: 04/14/2025
Date of first issue: 08/29/2019

| | |
|------------------------------------|--|
| | Early Embryonic Development: NOAEL: 0.12 mg/kg body weight Result: Fetotoxicity. |
| Effects on fetal development | : Test Type: Embryo-fetal 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-fetal 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. |

STOT-single exposure

Not classified based on available information.

Components:

Butanone:

Assessment : May cause drowsiness or dizziness.

STOT-repeated exposure

Causes damage to organs (Central nervous system) through prolonged or repeated exposure if swallowed.

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

Components:

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

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

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

Version 4.0 Revision Date: 06/18/2025 SDS Number: 4795013-00014 Date of last issue: 04/14/2025
Date of first issue: 08/29/2019

Repeated dose toxicity

Components:

Propylene glycol:

| | |
|-------------------|----------------------|
| Species | : Rat, male |
| NOAEL | : $\geq 1,700$ mg/kg |
| Application Route | : Ingestion |
| Exposure time | : 2 y |

Butanone:

| | |
|-------------------|---------------------------|
| Species | : Rat |
| NOAEL | : 14.84 mg/l |
| Application Route | : inhalation (vapor) |
| Exposure time | : 90 Days |
| Method | : OECD Test Guideline 413 |

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 |

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

Aspiration toxicity

Not classified based on available information.

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

Components:

Butanone:

|| The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

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

|| Ingestion : Symptoms: May cause, Tremors, Diarrhea, central nervous system effects, Salivation, tearing

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

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 |

1,3-Dioxan-5-ol:

| | |
|---|--|
| Toxicity to fish | : LL50 (Pimephales promelas (fathead minnow)): > 100 mg/l Exposure time: 96 h Remarks: Based on data from similar materials |
| Toxicity to daphnia and other aquatic invertebrates | : EL50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials |
| Toxicity to algae/aquatic plants | : EL50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l Exposure time: 72 h Remarks: Based on data from similar materials |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula- tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

| | |
|----------------------------|---|
| | NOELR (Pseudokirchneriella subcapitata (green algae)): > 1 mg/l Exposure time: 72 h Remarks: Based on data from similar materials |
| Toxicity to microorganisms | : EC10: > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209 Remarks: Based on data from similar materials |

Butanone:

| | |
|---|---|
| Toxicity to fish | : LC50 (Pimephales promelas (fathead minnow)): 2,993 mg/l Exposure time: 96 h Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : EC50 (Daphnia magna (Water flea)): 308 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : ErC50 (Pseudokirchneriella subcapitata (green algae)): 2,029 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 |
| | NOEC (Pseudokirchneriella subcapitata (green algae)): 1,240 mg/l Exposure time: 96 h Method: OECD Test Guideline 201 |

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 |
| | 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 |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

| | | |
|--|---|---|
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 100 mg/l Exposure time: 72 h |
| 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 |
| Toxicity to microorganisms | : | EC50: > 1,000 mg/l Exposure time: 3 h Test Type: Respiration inhibition |

Persistence and degradability

Components:

Propylene glycol:

| | | |
|------------------|---|---|
| Biodegradability | : | Result: Readily biodegradable. Biodegradation: 98.3 % Exposure time: 28 d Method: OECD Test Guideline 301F |
|------------------|---|---|

1,3-Dioxan-5-ol:

| | | |
|------------------|---|--|
| Biodegradability | : | Result: Inherently biodegradable. Remarks: Based on data from similar materials |
|------------------|---|--|

Butanone:

| | | |
|------------------|---|---|
| Biodegradability | : | Result: Readily biodegradable. Biodegradation: 98 % Exposure time: 28 d Method: OECD Test Guideline 301D |
|------------------|---|---|

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

| | | |
|--------------------|---|--------------------------|
| Stability in water | : | Hydrolysis: 50 %(< 12 h) |
|--------------------|---|--------------------------|

Bioaccumulative potential

Components:

Propylene glycol:

| | | |
|--|---|--|
| Partition coefficient: n-octanol/water | : | log Pow: -1.07 Method: Regulation (EC) No. 440/2008, Annex, A.8 |
|--|---|--|

1,3-Dioxan-5-ol:

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula- tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

Partition coefficient: n-
octanol/water : log Pow: -0.65

Butanone:

Partition coefficient: n-
octanol/water : log Pow: 0.3

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

Bioaccumulation : Bioconcentration factor (BCF): 52

Partition coefficient: n-
octanol/water : log Pow: 4

Mobility in soil

Components:

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

Distribution among environ-
mental compartments : log Koc: > 3.6

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

International Regulations

UNRTDG

| | |
|---------------------------|--|
| UN number | : UN 1993 |
| Proper shipping name | : FLAMMABLE LIQUID, N.O.S. (Butanone) |
| Class | : 3 |
| Packing group | : II |
| Labels | : 3 |
| Environmentally hazardous | : no |

IATA-DGR

| | |
|----------------------|----------------------------|
| UN/ID No. | : UN 1993 |
| Proper shipping name | : Flammable liquid, n.o.s. |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

| | |
|--|--|
| | (Butanone) |
| Class | : 3 |
| Packing group | : II |
| Labels | : Flammable Liquids |
| Packing instruction (cargo aircraft) | : 364 |
| Packing instruction (passenger aircraft) | : 353 |
| IMDG-Code | |
| UN number | : UN 1993 |
| Proper shipping name | : FLAMMABLE LIQUID, N.O.S. (Butanone, abamectin (combination of avermectin B1a and avermectin B1b) (ISO)) |
| Class | : 3 |
| Packing group | : II |
| Labels | : 3 |
| EmS Code | : F-E, <u>S-E</u> |
| Marine pollutant | : yes |

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

Not applicable for product as supplied.

Domestic regulation

TDG

| | |
|----------------------|---|
| UN number | : UN 1993 |
| Proper shipping name | : FLAMMABLE LIQUID, N.O.S. (Butanone) |
| Class | : 3 |
| Packing group | : II |
| Labels | : 3 |
| ERG Code | : 128 |
| Marine pollutant | : yes(abamectin (combination of avermectin B1a and avermectin B1b) (ISO)) |

Special precautions for user

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

SECTION 15. REGULATORY INFORMATION

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

| | |
|-------|------------------|
| AICS | : not determined |
| DSL | : not determined |
| IECSC | : not determined |

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula-tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

| | | |
|-------------------|---|--|
| ACGIH | : | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | : | ACGIH - Biological Exposure Indices (BEI) |
| CA AB OEL | : | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL) |
| CA BC OEL | : | Canada. British Columbia OEL |
| CA ON OEL | : | Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act. |
| CA QC OEL | : | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants |
| ACGIH / TWA | : | 8-hour, time-weighted average |
| ACGIH / STEL | : | Short-term exposure limit |
| CA AB OEL / TWA | : | 8-hour Occupational exposure limit |
| CA AB OEL / STEL | : | 15-minute occupational exposure limit |
| CA BC OEL / TWA | : | 8-hour time weighted average |
| CA BC OEL / STEL | : | short-term exposure limit |
| CA ON OEL / TWA | : | Time-Weighted Average Limit (TWA) |
| CA QC OEL / TWAEV | : | Time-weighted average exposure value |
| CA QC OEL / STEV | : | Short-term exposure value |

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; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recom-

SAFETY DATA SHEET

according to the Hazardous Products Regulations



Abamectin (with Propylene Glycol) Formula- tion

| | | | |
|---------|----------------|---------------|---------------------------------|
| Version | Revision Date: | SDS Number: | Date of last issue: 04/14/2025 |
| 4.0 | 06/18/2025 | 4795013-00014 | Date of first issue: 08/29/2019 |

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

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

Revision Date : 06/18/2025
Date format : mm/dd/yyyy

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

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

CA / Z8