SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Abamectin (with Propylene Glycol) Formulation

Manufacturer or supplier's details
Company name of supplier: MSD
Address: 2000 Galloping Hill Road
Kenilworth - New Jersey - U.S.A. 07033
Telephone: 908-740-4000
Emergency telephone: 1-908-423-6000
E-mail address: EHSDATASTEWARD@msd.com

Recommended use of the chemical and restrictions on use
Recommended use: Veterinary product

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification
Flammable liquids: Category 2
Acute toxicity (Oral): Category 5
Acute toxicity (Inhalation): Category 4
Eye irritation: Category 2A
Reproductive toxicity: Category 2
Specific target organ toxicity - repeated exposure (Oral): Category 1 (Central nervous system)
Specific target organ toxicity - repeated exposure: Category 2 (Central nervous system)
Aspiration hazard: Category 2

GHS label elements
Hazard pictograms:

Signal Word: Danger
Hazard Statements:
H225 Highly flammable liquid and vapor.
H303 May be harmful if swallowed.
H305 May be harmful if swallowed and enters airways.
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.
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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician 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.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P331 Do NOT induce vomiting.
P337 + P313 If eye irritation persists: Get medical advice/ attention.

Storage:
P405 Store locked up.

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

Other hazards
Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical name</td>
<td>CAS-No.</td>
</tr>
<tr>
<td>1,3-Dioxan-5-ol</td>
<td>4740-78-7</td>
</tr>
<tr>
<td>Butanone</td>
<td>78-93-3</td>
</tr>
<tr>
<td>abamectin (combination of avermectin B1a and B1b)</td>
<td>71751-41-2</td>
</tr>
</tbody>
</table>
**SAFETY DATA SHEET**

**Abamectin (with Propylene Glycol) Formulation**

Version 1.4  
Revision Date: 27.08.2021  
SDS Number: 4795006-00005  
Date of last issue: 26.04.2021  
Date of first issue: 29.08.2019

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**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**: May be harmful if swallowed. May be harmful if swallowed and enters airways. 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.

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**SECTION 5. FIRE-FIGHTING MEASURES**

**Suitable extinguishing media**: Water spray  
Alcohol-resistant foam  
Carbon dioxide (CO2)  
Dry chemical

**Unsuitable extinguishing media**: High volume water jet

**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.

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.

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.


SAFETY DATA SHEET

Abamectin (with Propylene Glycol) Formulation

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<table>
<thead>
<tr>
<th>(Form of exposure)</th>
<th>ters / Permissible concentration</th>
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</thead>
<tbody>
<tr>
<td>Butanone 78-93-3</td>
<td>VLE-PPT 200 ppm</td>
</tr>
<tr>
<td></td>
<td>VLE-CT 300 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA 200 ppm</td>
</tr>
<tr>
<td></td>
<td>STEL 300 ppm</td>
</tr>
<tr>
<td>abamectin (combination of avermectin B1a and avermectin B1b) (ISO) 71751-41-2</td>
<td>TWA 15 µg/m³ (OEB 3) Internal</td>
</tr>
</tbody>
</table>

Wipe limit 150 µg/100 cm² Internal

Biological occupational exposure limits

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Biological specimen</th>
<th>Sampling time</th>
<th>Permissible concentration</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>Butanone</td>
<td>78-93-3</td>
<td>MEK</td>
<td>Urine</td>
<td>End of shift</td>
<td>2 mg/l</td>
<td>MX BEI</td>
</tr>
<tr>
<td></td>
<td></td>
<td>methyl ethyl ketone</td>
<td>Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
<td>2 mg/l</td>
<td>ACGIH BEI</td>
</tr>
</tbody>
</table>

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 exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.

Filter type Combined particulates and organic vapor type

Hand protection

Material Chemical-resistant gloves

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

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
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
- **Partition coefficient**: Not applicable

## Autoignition temperature
- **Autoignition temperature**: No data available

## Decomposition temperature
- **Decomposition temperature**: No data available

## Viscosity
- **Viscosity, kinematic**: No data available

## Explosive properties
- **Explosive properties**: Not explosive

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

## Molecular weight
- **Molecular weight**: No data available

## Particle size
- **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.  
  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**
- May be harmful if swallowed.  
  Harmful if inhaled.

**Product**:
- **Acute oral toxicity**: Acute toxicity estimate: 2,190 mg/kg  
  **Method**: Calculation method
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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: > 5,000 mg/kg
Method: Calculation method

Components:

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:
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:

1,3-Dioxan-5-ol:
Species: Rabbit
SAFETY DATA SHEET

Abamectin (with Propylene Glycol) Formulation

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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

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:

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:

1,3-Dioxan-5-ol:
Test Type: Maximization Test
Routes of exposure: Skin contact
Species: Guinea pig
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:
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

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:**

**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:**

**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  
Early Embryonic Development: NOAEL: 0.12 mg/kg body weight  
Result: Fetotoxicity.

Effects on 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.

Repeated dose toxicity
Components:
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
SAFETY DATA SHEET

Abamectin (with Propylene Glycol) Formulation

Exposure time: 14 Weeks
Target Organs: Central nervous system

Aspiration toxicity
May be harmful if swallowed and enters airways.

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:

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

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
### Toxicity to daphnia and other aquatic invertebrates

<table>
<thead>
<tr>
<th>Method</th>
<th>EC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Daphnia magna (Water flea))</td>
<td>308 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48 h</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 203</td>
<td></td>
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</tbody>
</table>

### Toxicity to algae/aquatic plants

<table>
<thead>
<tr>
<th>Method</th>
<th>ErC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Pseudokirchneriella subcapitata (green algae))</td>
<td>2,029 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>96 h</td>
</tr>
<tr>
<td>Method</td>
<td>OECD Test Guideline 201</td>
<td></td>
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</tbody>
</table>

### NOEC (Pseudokirchneriella subcapitata (green algae)):

- NOEC: 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

<table>
<thead>
<tr>
<th>Method</th>
<th>LC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Oncorhynchus mykiss (rainbow trout))</td>
<td>3.2 µg/l</td>
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<tr>
<td></td>
<td></td>
<td>96 h</td>
</tr>
<tr>
<td></td>
<td>(Lepomis macrochirus (Bluegill sunfish))</td>
<td>9.6 µg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>96 h</td>
</tr>
<tr>
<td></td>
<td>(Ictalurus punctatus (channel catfish))</td>
<td>24 µg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>96 h</td>
</tr>
<tr>
<td></td>
<td>(Cyprinus carpio (Carp))</td>
<td>42 µg/l</td>
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<td>96 h</td>
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<tr>
<td></td>
<td>(Cyprinodon variegatus (sheepshead minnow))</td>
<td>15 µg/l</td>
</tr>
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<td>96 h</td>
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#### Toxicity to daphnia and other aquatic invertebrates

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<th>Method</th>
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<tr>
<td></td>
<td>(Americamysis)</td>
<td>0.022 µg/l</td>
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<tr>
<td></td>
<td></td>
<td>96 h</td>
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<td></td>
<td>(Daphnia magna (Water flea))</td>
<td>0.34 µg/l</td>
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<td>48 h</td>
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#### Toxicity to algae/aquatic plants

<table>
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<th>Method</th>
<th>EC50</th>
<th>Exposure time</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>(Pseudokirchneriella subcapitata (green algae))</td>
<td>100 mg/l</td>
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<tr>
<td></td>
<td></td>
<td>72 h</td>
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#### Toxicity to microorganisms

<table>
<thead>
<tr>
<th>Method</th>
<th>EC50</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>&gt; 1,000 mg/l</td>
</tr>
</tbody>
</table>
Exposure time: 3 h  
Test Type: Respiration inhibition  

Persistence and degradability

Components:

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:

1,3-Dioxan-5-ol:
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 environmental compartments : log Koc: > 3.6

Other adverse effects
No data available
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: 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

IATA-DGR
UN/ID No.: UN 1993
Proper shipping name: Flammable liquid, n.o.s. (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, S-E
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
NOM-002-SCT
SAFETY DATA SHEET

Abamectin (with Propylene Glycol) Formula-
tion

UN number: UN 1993
Proper shipping name: FLAMMABLE LIQUID, N.O.S.
(Butanone)
Class: 3
Packing group: II
Labels: 3

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

Safety, health and environmental regulations/legislation specific for the substance or mixture
Federal Law for the control of chemical precursors, essential chemical products and machinery for producing capsules, tablets and pills.

The ingredients of this product are reported in the following inventories:
- AICS: not determined
- DSL: not determined
- IECSC: not determined

SECTION 16. OTHER INFORMATION

Full text of other abbreviations
- ACGIH: USA. ACGIH Threshold Limit Values (TLV)
- ACGIH BEI: ACGIH - Biological Exposure Indices (BEI)
- MX BEI: Official Mexican Norm NOM-047-SSA1-2011, Environmental Health - Biological exposure indices for workers occupational-ly exposed to chemical agents
- ACGIH / TWA: 8-hour, time-weighted average
- ACGIH / STEL: Short-term exposure limit
- NOM-010-STPS-2014 / VLE-CT: Time weighted average limit value
- NOM-010-STPS-2014 / VLE-CT: Short term exposure limit 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
SAFETY DATA SHEET

Abamectin (with Propylene Glycol) Formulation

Version 1.4  Revision Date: 27.08.2021  SDS Number: 4795006-00005  Date of last issue: 26.04.2021
Date of first issue: 29.08.2019

\% response; ELx - Loading rate associated with \% response; EmS - Emergency Schedule;
ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with
\% 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 concentra-
tion; 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 Or-
ganisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentra-
tion 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


Revision Date: 27.08.2021

The information is considered as correct, but not exhaustive, and will be used only as a guide, which is based in the current knowledge of the substance or mixture, and is applicable to proper safety precautions for the product.

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