

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

SECTION 1. IDENTIFICATION

Product identifier : Lambda-Cyhalothrin / Piperonyl Butoxide Formulation

Manufacturer or supplier's details

Company : MSD

Address : Rua Coronel Bento Soares, 530
Cruzeiro - Sao Paulo - Brazil CEP 12730-340

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

Restrictions on use : Not applicable

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification in accordance with ABNT NBR 14725 Standard**

Acute toxicity (Oral) : Category 4

Acute toxicity (Inhalation) : Category 5

Acute toxicity (Dermal) : Category 5

Skin irritation : Category 2

Eye irritation : Category 2B

Specific target organ toxicity - : Category 2 (Nervous system)
single exposure

Short-term (acute) aquatic : Category 1
hazard

Long-term (chronic) aquatic : Category 1
hazard

GHS label elements in accordance with ABNT NBR 14725 Standard

Lambda-Cyhalothrin / Piperonyl Butoxide Formulation

Version 6.0 Revision Date: 03.12.2024 SDS Number: 1366447-00020 Date of last issue: 28.09.2024
Date of first issue: 01.03.2017

Hazard pictograms

:



Signal Word

:

Warning

Hazard Statements

:

H302 Harmful if swallowed.
H313 + H333 May be harmful in contact with skin or if inhaled.
H315 + H320 Causes skin and eye irritation.
H371 May cause damage to organs (Nervous system).
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

:

Prevention:

P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P280 Wear protective gloves.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P302 + P312 IF ON SKIN: Call a POISON CENTER/ doctor if you feel unwell.
P302 + P352 IF ON SKIN: Wash with plenty of water.
P304 + P312 IF INHALED: 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.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P391 Collect spillage.

Storage:

P405 Store locked up.

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture

: Mixture

Components

Chemical name	CAS-No.	Classification	Concentration (% w/w)
2-(2-Butoxyethoxy)ethyl 6-	51-03-6	Eye Irrit., 2A	>= 5 -< 10

Lambda-Cyhalothrin / Piperonyl Butoxide Formulation

Version 6.0 Revision Date: 03.12.2024 SDS Number: 1366447-00020 Date of last issue: 28.09.2024
 Date of first issue: 01.03.2017

propylpiperonyl ether		STOT SE, 3 Aquatic Acute, 1 Aquatic Chronic, 1	
lambda-cyhalothrin (ISO)	91465-08-6	Acute Tox. (Oral), 3 Acute Tox. (Inhalation), 2 Acute Tox. (Dermal), 3 Eye Irrit., 2B STOT SE, (Nervous system), 1 Aquatic Acute, 1 Aquatic Chronic, 1	>= 1 -< 2,5

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.
 Get medical attention.
- In case of skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing 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 unless directed to do so by medical personnel.
 Get medical attention.
 Rinse mouth thoroughly with water.
 Never give anything by mouth to an unconscious person.
- Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
 May be harmful in contact with skin or if inhaled.
 Causes skin and eye irritation.
 May cause damage to organs.
- 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 (CO₂)
 Dry chemical

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

- Unsuitable extinguishing media : None known.
- Specific hazards during fire fighting : Exposure to combustion products may be a hazard to health.
- Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Chlorine compounds
Fluorine compounds
- 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 : 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 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

Lambda-Cyhalothrin / Piperonyl Butoxide Formulation

Version 6.0 Revision Date: 03.12.2024 SDS Number: 1366447-00020 Date of last issue: 28.09.2024
Date of first issue: 01.03.2017

- Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
- Local/Total ventilation : Use only with adequate ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe mist or vapors.
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
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.
- Conditions for safe storage : Keep in properly labeled containers.
Store locked up.
Store in accordance with the particular national regulations.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
Self-reactive substances and mixtures
Organic peroxides
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether	51-03-6	TWA	4 mg/m ³ (OEB 1)	Internal
lambda-cyhalothrin (ISO)	91465-08-6	TWA	5 µg/m ³ (OEB 4)	Internal
Further information: Skin				
		Wipe limit	50 µg/100 cm ²	Internal

- Engineering measures** : The information below is intended for larger pilot/commercial-scale operations and manufacturing. For smaller scale, clinical, or pharmacy settings, site-specific internal risk assessment practices should be conducted to determine appropriate exposure control measures. The health hazard

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

risks of handling this material are dependent on multiple factors, including but not limited to physical form and quantity handled. If applicable, use process enclosures, local exhaust ventilation (e.g., Biosafety Cabinet, Ventilated Balance Enclosures), or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels as low as reasonably achievable.

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Essentially no open handling permitted.

Use closed processing systems or containment technologies. If handled in a laboratory, use a properly designed biosafety cabinet, fume hood, or other containment device if the potential exists for aerosolization. If this potential does not exist, handle over lined trays or benchtops.

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.
- 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

- Physical state : liquid
- Color : clear, light yellow
- Odor : mild, oily
- Odor Threshold : No data available
- pH : 6,16
- Melting point/freezing point : No data available

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version 6.0	Revision Date: 03.12.2024	SDS Number: 1366447-00020	Date of last issue: 28.09.2024 Date of first issue: 01.03.2017
----------------	------------------------------	------------------------------	---

Initial boiling point and boiling range	:	No data available
Flash point	:	105,5 °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	:	0,9326
Density	:	No data available
Solubility(ies) Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
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	:	Not applicable
Particle characteristics Particle size	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version 6.0	Revision Date: 03.12.2024	SDS Number: 1366447-00020	Date of last issue: 28.09.2024 Date of first issue: 01.03.2017
----------------	------------------------------	------------------------------	---

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.

SECTION 11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Harmful if swallowed.

May be harmful in contact with skin or if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 2.000 mg/kg
TDLo (Rat): 300 mg/kg
Remarks: No mortality observed at this dose.

Acute inhalation toxicity : Acute toxicity estimate: 6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat): > 5,2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

lambda-cyhalothrin (ISO):

Acute oral toxicity : LD50 (Rat): 56 - 79 mg/kg
LD50 (Mouse): 20 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0,06 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

Acute dermal toxicity : LD50 (Rat): 632 - 696 mg/kg

Acute toxicity (other routes of administration) : LD50 (Rat): 250 - 750 mg/kg
Application Route: Intraperitoneal

Skin corrosion/irritation

Causes skin irritation.

Product:

Species : Rabbit
Result : irritating

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

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

Assessment : Repeated exposure may cause skin dryness or cracking.

lambda-cyhalothrin (ISO):

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation

Causes eye irritation.

Product:

Species : Rabbit
Result : Mild eye irritation

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

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

lambda-cyhalothrin (ISO):

Species : Rabbit
Result : Mild eye irritation

Respiratory or skin sensitization**Skin sensitization**

Not classified based on available information.

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

Respiratory sensitization

Not classified based on available information.

Product:

Test Type	: Local lymph node assay (LLNA)
Routes of exposure	: Dermal
Assessment	: Does not cause skin sensitization.
Result	: negative
	: Magnusson-Kligman-Test
	: Dermal
	: Not a skin sensitizer.

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

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

lambda-cyhalothrin (ISO):

Test Type	: Magnusson-Kligman-Test
Routes of exposure	: Dermal
Species	: Guinea pig
Result	: Not a skin sensitizer.

Germ cell mutagenicity

Not classified based on available information.

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

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

lambda-cyhalothrin (ISO):

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

Test Type: Chromosomal aberration
Test system: Human lymphocytes
Result: negative

Test Type: unscheduled DNA synthesis assay
Test system: rat hepatocytes
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Cell type: Bone marrow
Application Route: Intraperitoneal
Result: negative

Carcinogenicity

Not classified based on available information.

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Species : Rat
Application Route : Ingestion
Exposure time : 107 weeks
Method : OECD Test Guideline 451
Result : negative

lambda-cyhalothrin (ISO):

Species : Mouse
Application Route : oral (feed)
Exposure time : 2 Years
Result : negative
Remarks : Based on data from similar materials

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

Reproductive toxicity

Not classified based on available information.

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

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

Effects on fetal development : Test Type: Embryo-fetal development
Species: Rat
Application Route: Ingestion
Result: negative

lambda-cyhalothrin (ISO):

Effects on fertility : Test Type: Three-generation study
Species: Rat

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

Application Route: oral (feed)
General Toxicity Parent: NOAEL: 2 mg/kg body weight
General Toxicity F1: LOAEL: 6,7 mg/kg body weight
Symptoms: Reduced offspring weight gain.
Result: No effects on fertility.
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Developmental Toxicity: LOAEL: 15 mg/kg body weight
Result: No effects on fetal development., Reduced maternal body weight gain., Reduced fetal weight.
Remarks: Based on data from similar materials

Test Type: Development
Species: Rabbit
Application Route: Oral
General Toxicity Maternal: NOAEL: 10 mg/kg body weight
Developmental Toxicity: NOAEL: 30 mg/kg body weight
Result: No effects on fetal development., Reduced maternal body weight gain., Reduced fetal weight.
Remarks: Based on data from similar materials

STOT-single exposure

May cause damage to organs (Nervous system).

Components:**2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Assessment : May cause respiratory irritation.

lambda-cyhalothrin (ISO):

Target Organs : Nervous system
Assessment : Causes damage to organs.

STOT-repeated exposure

Not classified based on available information.

Repeated dose toxicity**Components:****2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Species : Rat
NOAEL : 1.323 mg/kg
Application Route : Ingestion
Exposure time : 7 Weeks

lambda-cyhalothrin (ISO):

Species : Dog

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

NOAEL	: 2,5 mg/kg
LOAEL	: 12,5 mg/kg
Application Route	: oral (feed)
Exposure time	: 90 d
Symptoms	: reduced body weight gain, reduced food consumption

Species	: Rat
NOAEL	: 10 mg/kg
LOAEL	: 50 mg/kg
Application Route	: Dermal
Exposure time	: 21 d
Target Organs	: Nervous system

Species	: Rat
NOAEL	: 0,08 mg/kg
LOAEL	: 0,9 mg/kg
Application Route	: Inhalation
Exposure time	: 21 d
Target Organs	: Nervous system

Species	: Dog
NOAEL	: 0,1 mg/kg
LOAEL	: 0,5 mg/kg
Application Route	: Oral
Exposure time	: 1 y
Target Organs	: Nervous system
Symptoms	: Gastrointestinal disturbance, Vomiting, Convulsions, ataxia, Liver effects

Aspiration toxicity

Not classified based on available information.

Experience with human exposure**Components:****lambda-cyhalothrin (ISO):**

Inhalation	: Symptoms: Cough, Local irritation, sneezing
Skin contact	: Symptoms: Skin irritation, tingling, superficial burning sensation, Local irritation Remarks: Can be absorbed through skin.
Eye contact	: Symptoms: Eye irritation
Ingestion	: Symptoms: Gastrointestinal disturbance

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity****Components:****2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Toxicity to fish	: LC50 (Cyprinodon variegatus (sheepshead minnow)): 3,94 mg/l
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Lambda-Cyhalothrin / Piperonyl Butoxide Formulation

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

- Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,51 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 3,89 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- NOEC (Pseudokirchneriella subcapitata (green algae)): 0,824 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- M-Factor (Acute aquatic toxicity) : 1
- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0,18 mg/l
Exposure time: 35 d
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0,03 mg/l
Exposure time: 21 d
- M-Factor (Chronic aquatic toxicity) : 1
- Toxicity to microorganisms : EC50: > 1.000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
- lambda-cyhalothrin (ISO):**
- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,00019 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials
- LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,00021 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,00004 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials
- M-Factor (Acute aquatic toxicity) : 10.000
- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 0,000062 mg/l
Exposure time: 32 d
Method: OECD Test Guideline 210

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0,0035 µg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

M-Factor (Chronic aquatic toxicity) : 10.000

Persistence and degradability**Components:****2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Bioaccumulative potential**Components:****2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Partition coefficient: n-octanol/water : log Pow: 5

lambda-cyhalothrin (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 2.240
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 7,0 (20 °C)

Mobility in soil**Components:****lambda-cyhalothrin (ISO):**

Distribution among environmental compartments : log Koc: 5,5

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.
If not otherwise specified: Dispose of as unused product.

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

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

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (ISO))
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (ISO))
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (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.

Domestic regulation**ANTT**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (ISO))
Class	:	9
Packing group	:	III
Labels	:	9

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
6.0	03.12.2024	1366447-00020	Date of first issue: 01.03.2017

Hazard Identification Number : 90

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**National List of Carcinogenic Agents for Humans - : Not applicable
(LINACH)Brazil. List of chemicals controlled by the Federal : Not applicable
Police**The ingredients of this product are reported in the following inventories:**

AICS : not determined

DSL : not determined

IECSC : not determined

SECTION 16. OTHER INFORMATIONRevision Date : 03.12.2024
Date format : dd.mm.yyyy**Further information**Sources of key data used to : Internal technical data, data from raw material SDSs, OECD
compile the Material Safety eChem Portal search results and European Chemicals Agen-
Data Sheet cy, <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.

Full text of other abbreviations

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

**Lambda-Cyhalothrin / Piperonyl Butoxide
Formulation**

Version	Revision Date:	SDS Number:	Date of last issue: 28.09.2024
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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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