

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

Section 1: Identification

Product identifier : Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Recommended use of the chemical and restrictions on use

Recommended use : Veterinary product
Restrictions on use : Not applicable

Manufacturer or supplier's details

Company : MSD
Address : 50 Tuas West Drive
Singapore - Singapore 638408
Telephone : +1-908-740-4000
Emergency telephone number : 65 6697 2111 (24/7/365)
E-mail address : EHSDATASTEWARD@msd.com

Section 2: Hazard identification

Classification of the substance or mixture

Acute toxicity (Oral) : Category 4

Specific target organ toxicity - single exposure : Category 1 (Nervous system)

Short-term (acute) aquatic hazard

Long-term (chronic) aquatic hazard

GHS Label elements, including precautionary statements

Hazard pictograms :



Signal word :

Danger

Hazard statements :

H302 Harmful if swallowed.
H370 Causes damage to organs (Nervous system).
H410 Very toxic to aquatic life with long lasting effects.

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

Precautionary statements

Prevention:

P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor.
P391 Collect spillage.

Storage:

P405 Store locked up.

Disposal:

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

Other hazards which do not result in classification

None known.

Section 3: Composition/information on ingredients

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Polyvinyl chloride	9002-86-2	>= 50 -< 70
2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether	51-03-6	>= 10 -< 20
lambda-cyhalothrin (ISO)	91465-08-6	>= 10 -< 20
Titanium dioxide	13463-67-7	>= 0.1 -< 1

Section 4: First-aid measures

Description of necessary 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 soap and plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

In case of eye contact : Thoroughly clean shoes before reuse.
Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

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

Risks : Harmful if swallowed.
Causes 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).

Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

Section 5: Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Special hazards arising from the substance or mixture

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

Special protective actions for fire-fighters

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

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016**Section 6: Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Personal precautions

- : Use personal protective equipment.
- Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

Environmental precautions

Environmental precautions

- : Avoid release to the environment.
- Prevent further leakage or spillage if safe to do so.
- 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

Methods for cleaning up

- : Surround spill with absorbents and place a damp covering over the area to minimise entry of the material into the air.
- Add excess liquid to allow the material to enter into solution.
- Soak up with inert absorbent material.
- 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**Precautions for safe handling**

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 swallow.

Avoid contact with 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

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.

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version 5.0 Revision Date: 14.04.2025 SDS Number: 1139525-00024 Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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, including any incompatibilities

Conditions for safe storage : Keep in properly labelled 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

Section 8: Exposure controls/personal protection

Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Polyvinyl chloride	9002-86-2	TWA (Respirable particulate matter)	1 mg/m3	ACGIH
2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether	51-03-6	TWA	4 mg/m3 (OEB 1)	Internal
lambda-cyhalothrin (ISO)	91465-08-6	TWA	5 µg/m3 (OEB 4)	Internal
		Further information: Skin		
Titanium dioxide	13463-67-7	Wipe limit PEL (long term)	50 µg/100 cm ² 10 mg/m3	Internal SG OEL

Appropriate engineering control 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 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.

Containment technologies suitable for controlling compounds

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., vacuum conveying from a closed system, packout head with inflatable seal from stationary container, ventilated enclosure, etc.).

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.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection	: Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.
Skin protection	: Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.
Respiratory protection	: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection.
Filter type	: Combined particulates and organic vapour type
Hand protection	
Material	: Chemical-resistant gloves
Remarks	: Consider double gloving.

Section 9: Physical and chemical properties

Appearance	: solid
Colour	: violet
Odour	: No data available
Odour Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: Not applicable

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not classified as a flammability hazard
Flammability (liquids)	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	No data available
Particle characteristics		
Particle size	:	No data available

Section 10: Stability and reactivity

Reactivity	:	Not classified as a reactivity hazard.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Can react with strong oxidizing agents.

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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 : Skin contact
Ingestion
Eye contact

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	Acute toxicity estimate: 560 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	Acute toxicity estimate: > 2,000 mg/kg Method: Calculation method

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
Acute dermal toxicity	:	LD50 (Rat): 632 - 696 mg/kg
Acute toxicity (other routes of	:	LD50 (Rat): 250 - 750 mg/kg

Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

||| administration) Application Route: Intraperitoneal

Titanium dioxide:

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

||| Acute inhalation toxicity : LC50 (Rat): > 6.82 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Skin corrosion/irritation

Not classified based on available information.

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

Titanium dioxide:

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

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Result : No 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

Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version 5.0 Revision Date: 14.04.2025 SDS Number: 1139525-00024 Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

|||Result : Mild eye irritation

Titanium dioxide:

|||Species : Rabbit
|||Result : No eye irritation

Respiratory or skin sensitisation**Skin sensitisation**

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

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

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

lambda-cyhalothrin (ISO):

|||Test Type : Magnusson-Kligman-Test
|||Exposure routes : Dermal
|||Species : Guinea pig
|||Result : Not a skin sensitizer.

Titanium dioxide:

|||Test Type : Local lymph node assay (LLNA)
|||Exposure routes : Skin contact
|||Species : Mouse
|||Result : negative

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

Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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
Result: negative

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

Titanium dioxide:

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

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse
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

Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

||| Remarks : Based on data from similar materials

Titanium dioxide:

Species	:	Rat
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	2 Years
Method	:	OECD Test Guideline 453
Result	:	positive
Remarks	:	The mechanism or mode of action may not be relevant in humans.

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in inhalation studies with animals.
------------------------------	---	---

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 foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: Ingestion Result: negative

lambda-cyhalothrin (ISO):

Effects on fertility	:	Test Type: Three-generation study Species: Rat 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 foetal 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 foetal development, Reduced maternal body weight gain, Reduced foetal weight Remarks: Based on data from similar materials

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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 foetal development, Reduced maternal body weight gain, Reduced foetal weight
Remarks: Based on data from similar materials

STOT - single exposure

Causes 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
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

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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 yr
Target Organs	:	Nervous system
Symptoms	:	Gastrointestinal disturbance, Vomiting, Convulsions, ataxia, Liver effects

Titanium dioxide:

Species	:	Rat
NOAEL	:	24,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	28 Days
Species	:	Rat
NOAEL	:	10 mg/m ³
Application Route	:	inhalation (dust/mist/fume)
Exposure time	:	2 yr

Aspiration toxicity

Not classified based on available information.

Experience with human exposure**Product:**

Skin contact	:	Symptoms: Skin irritation, tingling, superficial burning sensation, Local irritation Remarks: Can be absorbed through skin.
Eye contact	:	Remarks: May irritate eyes.

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

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016**Section 12: Ecological information****Toxicity****Components:****2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether:**

Toxicity to fish	:	LC50 (Cyprinodon variegatus (sheepshead minnow)): 3.94 mg/l 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

Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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 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
Titanium dioxide:		
Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Skeletonema costatum (marine diatom)): > 10,000 mg/l Exposure time: 72 h
Toxicity to microorganisms	:	EC50: > 1,000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209

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
------------------	---	--

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

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.

Section 14: Transport information

International Regulations

UNRTDG

UN number : UN 3077
UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (ISO))
Transport hazard class(es) : 9
Packing group : III
Labels : 9
Environmental hazards : yes

IATA-DGR

UN/ID No. : UN 3077

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version 5.0 Revision Date: 14.04.2025 SDS Number: 1139525-00024 Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

UN proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (ISO))
Transport hazard class(es) : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(2-(2-butoxyethoxy)ethyl 6-propylpiperonyl ether, lambda-cyhalothrin (ISO))
Transport hazard class(es) : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

Special precautions for user

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

Section 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Workplace Safety and Health Act and Workplace Safety and Health (General Provisions) Regulations: This product is subject to the requirements in the Act/Regulations.

Environmental Protection and Management Act and Environmental Protection and Management (Hazardous Substances) Regulations : Pyrethroid compounds used as pesticides
Fire Safety (Petroleum and Flammable Materials) Regulations : Not applicable

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

AICS : not determined
DSL : not determined
IECSC : not determined

Lambda-Cyhalothrin / Piperonyl Butoxide Ear TagVersion
5.0Revision Date:
14.04.2025SDS Number:
1139525-00024Date of last issue: 03.12.2024
Date of first issue: 06.12.2016**Section 16: Other information**

Revision Date : 14.04.2025

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

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

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

SG OEL : Singapore. Workplace Safety and Health (General Provisions) Regulations - First Schedule Permissible Exposure Limits of Toxic Substances.

ACGIH / TWA : 8-hour, time-weighted average

SG OEL / PEL (long term) : Permissible Exposure Level (PEL) Long Term

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recom-

SAFETY DATA SHEET



Lambda-Cyhalothrin / Piperonyl Butoxide Ear Tag

Version
5.0

Revision Date:
14.04.2025

SDS Number:
1139525-00024

Date of last issue: 03.12.2024
Date of first issue: 06.12.2016

mendations 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.

SG / EN