

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## Artemide

Version	Revision Date:	SDS Number:	Date of last issue: 31.03.2022
1.2	31.03.2022	750075100154	Date of first issue: 23.02.2022

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of France and may not meet the regulatory requirements in other countries.

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Trade name : Artemide

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Sub-stance/Mixture : Agriculture use.

#### 1.3 Details of the supplier of the safety data sheet

##### COMPANY IDENTIFICATION

##### Manufacturer/importer

DuPont Solutions (France) S.A.S.  
1 bis avenue du 8 mai 1945 Bâtiment Equinoxe II  
78280 Guyancourt  
FRANCE

Customer Information Number : +33 1 30 23 13 13

E-mail address : SDS@corteva.com

#### 1.4 Emergency telephone number

SGS +32 3 575 55 55 OR

+33 975 182 341

ORFILA: + 33 (0)1 45 42 59 59

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 2	H330: Fatal if inhaled.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Short-term (acute) aquatic hazard, Cate-	H400: Very toxic to aquatic life.

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Category 1  
Long-term (chronic) aquatic hazard, Category 1  
H410: Very toxic to aquatic life with long lasting effects.

### 2.2 Label elements

#### Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements : H301 Toxic if swallowed.  
H318 Causes serious eye damage.  
H330 Fatal if inhaled.  
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

Precautionary statements : P270 Do not eat, drink or smoke when using this product.  
**Prevention:**  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.  
**Response:**  
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**Storage:**  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

#### Hazardous components which must be listed on the label:

lambda-cyhalothrin (ISO)  
Calcium ammonium nitrate

#### Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

#### 3.2 Mixtures

##### Components

Chemical name	CAS-No. EC-No. Index-No. REACH Registration number	Classification	Concentration (% w/w)
lambda-cyhalothrin (ISO)	91465-08-6 415-130-7 607-252-00-6	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 4; H312 Aquatic Acute 1; H400 Aquatic Chronic 1; H410  M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 10.000	>= 10 - < 25
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 3; H412  M-Factor (Acute aquatic toxicity): 1  specific concentration limit Skin Sens. 1; H317 >= 0,05 %	0,02
Solvent naphtha (petroleum),	64742-94-5	STOT SE 3; H336	>= 10 - < 25

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heavy arom.; Kerosine — unspecified	265-198-5 649-424-00-3 01-2119451097-39, 01-2119451151-53, 01-2119463583-34, 01-2119510128-50	(Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 <hr/> M-Factor (Acute aquatic toxicity): 1	
Calcium ammonium nitrate	15245-12-2 239-289-5	Acute Tox. 4; H302 Eye Dam. 1; H318 STOT SE 3; H336 (Central nervous system)	>= 2,5 - < 10

For explanation of abbreviations see section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- General advice : In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.  
First Aid responders should pay attention to self-protection and use the recommended protective clothing
- If inhaled : Move to fresh air.  
Keep patient warm and at rest.  
If not breathing, give artificial respiration.  
Call a physician immediately.
- In case of skin contact : Wash skin thoroughly with soap and water.  
If skin irritation persists, call a physician.
- In case of eye contact : Rinse thoroughly with plenty of water, also under the eyelids.  
Consult medical personnel.
- If swallowed : Call a physician immediately.  
Wash out mouth with water.  
If swallowed, DO NOT induce vomiting.

### 4.2 Most important symptoms and effects, both acute and delayed

None known.

### 4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : No specific antidote.  
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.  
Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Suitable extinguishing media : Water spray  
Alcohol-resistant foam

Unsuitable extinguishing media : None known.

#### 5.2 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 : Nitrogen oxides (NO<sub>x</sub>)  
Carbon oxides

#### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary. Use personal protective equipment.

Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.  
Evacuate area.  
Use water spray to cool unopened containers.

Further information : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

#### 6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.  
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.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Clean up remaining materials from spill with suitable absorbant.  
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.

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For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container. Keep in suitable, closed containers for disposal. Wipe up with absorbent material (e.g. cloth, fleece). See Section 13, Disposal Considerations, for additional information.

### 6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice. Smoking, eating and drinking should be prohibited in the application area. Take care to prevent spills, waste and minimize release to the environment. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a closed container. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

### 7.3 Specific end use(s)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	Long term exposure limit	100 mg/m <sup>3</sup>	
		Time weighted average	100 mg/m <sup>3</sup>	Corteva OEL

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		Short term exposure limit	300 mg/m <sup>3</sup>	Corteva OEL
lambda-cyhalothrin (ISO)	91465-08-6	Long term exposure limit	0,04 mg/m <sup>3</sup>	

### Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	Consumers	Oral	Systemic effects	7,5 mg/kg
	Workers	Dermal	Systemic effects	12,5 mg/kg
	Consumers	Dermal	Systemic effects	7,5 mg/kg
	Workers	Inhalation	Systemic effects	151 mg/m <sup>3</sup>
Calcium ammonium nitrate	Consumers	Inhalation	Systemic effects	32 mg/m <sup>3</sup>
	Consumers	Oral		8,33 mg/kg
	Workers	Dermal		13,9 mg/kg
	Consumers	Dermal		8,33 mg/kg
	Workers	Inhalation		24,5 mg/m <sup>3</sup>
	Consumers	Inhalation		6,3 mg/m <sup>3</sup>

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Calcium ammonium nitrate	Sewage treatment plant	18 mg/l
	Fresh water sediment	0,45 mg/l
	Intermittent use/release	4,5 mg/l
	Marine water	0,045 mg/l

## 8.2 Exposure controls

### Engineering measures

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Personal protective equipment

Eye protection : Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Hand protection

Remarks : Protective gloves complying with EN 374. Examples of preferred glove barrier materials include: Rubber or plastic gloves Wear approved gloves that are suitable for the task and have been shown to be impervious for the duration of their use.

Skin and body protection : Protective Work Clothing  
Tyvek suit  
Operations with exposure to contaminated dust: Coverall polyester 65% - Cotton 35% with 230 g/m<sup>2</sup> or more fabric weight

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Operations with exposure to contaminated liquids: add partial apron Cat. III type PB(3) to wear over all mentioned coverall  
Boots safety footwear for professional use in accordance with EN 345

Respiratory protection : Suitable mask with particle filter P3 (European Norm 143)  
Half mask with combination filter A2/P3 (EN 141)

Filter type : For manufacturing processes filtering half-mask FFP3 (meeting standard EN 149) is recommended. (IH8011)

Protective measures : Wear suitable protective equipment.  
Keep away from food and drink.  
Avoid contact with skin.  
When using do not eat, drink or smoke.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state : Homogeneous, liquid  
Colour : pink  
Odour : characteristic  
Melting point/range : No data available

Boiling point/boiling range : No data available

Upper explosion limit / Upper flammability limit : No data available

Lower explosion limit / Lower flammability limit : No data available

Flash point : No flash up to boiling point.

pH : 5,33 (24,8 °C)

Viscosity  
Viscosity, dynamic : > 100 mPa,s (40 °C)  
Viscosity, kinematic : No data available

Solubility(ies)  
Water solubility : dispersible

Vapour pressure : No data available

Relative density : No data available

Density : 1,11 g/cm<sup>3</sup> (20 °C)

Relative vapour density : No data available

### 9.2 Other information

Explosives : Not explosive



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Oxidizing properties	:	No data available
Self-ignition	:	392 °C
Evaporation rate	:	No data available
Surface tension	:	No data available

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Not classified as a reactivity hazard.

#### 10.2 Chemical stability

No decomposition if stored and applied as directed.  
Stable under normal conditions.

#### 10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.  
No hazards to be specially mentioned.  
None known.

#### 10.4 Conditions to avoid

Conditions to avoid : None known.

#### 10.5 Incompatible materials

Materials to avoid : Strong acids  
Strong bases

#### 10.6 Hazardous decomposition products

Carbon oxides

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### SECTION 11: Toxicological information

#### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute toxicity

##### Product:

Acute oral toxicity	:	Assessment: The component/mixture is toxic after single ingestion.
Acute inhalation toxicity	:	Acute toxicity estimate: 0,268 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 2.000 mg/kg Method: Calculation method

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### Components:

#### **lambda-cyhalothrin (ISO):**

- Acute oral toxicity : LD50 (Rat): 56 - 235 mg/kg
- Acute inhalation toxicity : Remarks: Brief exposure (minutes) to easily attainable concentrations may cause serious adverse effects, even death. Dust may cause irritation to upper respiratory tract (nose and throat).
- LC50 (Rat): 0,067 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist
- Acute dermal toxicity : Remarks: Prolonged or widespread skin contact may result in absorption of potentially harmful amounts.
- LD50 (Rat): > 1.000 mg/kg

#### **1,2-benzisothiazol-3(2H)-one:**

- Acute oral toxicity : LD50 (Rat): 675,3 mg/kg
- Acute inhalation toxicity : LC50 (Rat): 0,25 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg  
Assessment: The substance or mixture has no acute oral toxicity
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5,68 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg  
Symptoms: No deaths occurred at this concentration.  
Assessment: The substance or mixture has no acute dermal toxicity

#### **Calcium ammonium nitrate:**

- Acute oral toxicity : Remarks: Moderate toxicity if swallowed.  
Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause serious injury, even death.

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LD50 (Rat, female): > 300 - < 2.000 mg/kg  
Method: OECD Test Guideline 423  
Symptoms: Lethargy

Acute dermal toxicity : Remarks: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

LD50 (Rat, male and female): > 2.000 mg/kg  
Method: OECD Test Guideline 402  
Symptoms: Lethargy, No deaths occurred at this concentration.

### Skin corrosion/irritation

#### Components:

##### **1,2-benzisothiazol-3(2H)-one:**

Species : Rabbit  
Result : Skin irritation

##### **Calcium ammonium nitrate:**

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

### Serious eye damage/eye irritation

#### Components:

##### **1,2-benzisothiazol-3(2H)-one:**

Species : Rabbit  
Result : Corrosive

##### **Calcium ammonium nitrate:**

Species : Rabbit  
Method : OECD Test Guideline 405  
Result : Corrosive

### Respiratory or skin sensitisation

#### Components:

##### **lambda-cyhalothrin (ISO):**

Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:  
No relevant data found.

##### **1,2-benzisothiazol-3(2H)-one:**

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Species : Mouse  
Assessment : The product is a skin sensitizer, sub-category 1B.

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Remarks : Did not cause allergic skin reactions when tested in humans.

Remarks : For respiratory sensitization:  
No relevant data found.

### **Calcium ammonium nitrate:**

Test Type : Local lymph node assay (LLNA)  
Species : Mouse  
Assessment : Does not cause skin sensitisation.  
Method : OECD Test Guideline 429  
Remarks : For skin sensitization:  
Did not demonstrate the potential for contact allergy in mice.

Remarks : For respiratory sensitization:  
No relevant data found.

### **Germ cell mutagenicity**

#### **Components:**

#### **lambda-cyhalothrin (ISO):**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

#### **1,2-benzisothiazol-3(2H)-one:**

Germ cell mutagenicity- Assessment : Not mutagenic when tested in bacterial or mammalian systems.

#### **Calcium ammonium nitrate:**

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative.

### **Carcinogenicity**

#### **Components:**

#### **lambda-cyhalothrin (ISO):**

Carcinogenicity - Assessment : For similar active ingredient(s)., Did not cause cancer in laboratory animals.

### **Reproductive toxicity**

#### **Components:**

#### **lambda-cyhalothrin (ISO):**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.  
For similar active ingredient(s)., Did not cause birth defects or

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any other fetal effects in laboratory animals.

### **1,2-benzisothiazol-3(2H)-one:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction., In animal studies, did not interfere with fertility.  
Did not cause birth defects in laboratory animals.

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.

### **Calcium ammonium nitrate:**

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction.  
Did not cause birth defects or any other fetal effects in laboratory animals.

### **STOT - single exposure**

#### **Product:**

Assessment : The substance or mixture is not classified as specific target organ toxicant, single exposure.

#### **Components:**

### **1,2-benzisothiazol-3(2H)-one:**

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Exposure routes : Inhalation  
Target Organs : Central nervous system  
Assessment : May cause drowsiness or dizziness.

### **Calcium ammonium nitrate:**

Exposure routes : Oral  
Target Organs : Central nervous system  
Assessment : May cause drowsiness or dizziness.

### **STOT - repeated exposure**

#### **Product:**

Assessment : Evaluation of available data suggests that this material is not an STOT-RE toxicant.

### **Repeated dose toxicity**

#### **Components:**

### **lambda-cyhalothrin (ISO):**

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Remarks : In animals, effects have been reported on the following organs:  
Central nervous system.  
Liver.

### **1,2-benzisothiazol-3(2H)-one:**

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Remarks : In animals, effects have been reported on the following organs:  
Lung.  
Gastrointestinal tract.  
Thyroid.  
Urinary tract.  
Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.  
Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

### **Calcium ammonium nitrate:**

Species : Rat, male and female  
NOAEL : > 1.000 mg/kg  
Application Route : Oral  
Exposure time : 28-day  
Method : OECD Test Guideline 407  
Remarks : In animals, effects have been reported on the following organs:  
spleen

### **Aspiration toxicity**

#### **Product:**

No aspiration toxicity classification

#### **Components:**

##### **lambda-cyhalothrin (ISO):**

Based on physical properties, not likely to be an aspiration hazard.

##### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

May be fatal if swallowed and enters airways.

##### **Calcium ammonium nitrate:**

Based on physical properties, not likely to be an aspiration hazard.

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### 11.2 Information on other hazards

#### Endocrine disrupting properties

##### Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): 0,012 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202

#### Components:

##### **lambda-cyhalothrin (ISO):**

Toxicity to fish : Remarks: Material is very toxic to aquatic organisms (LC50/EC50/IC50 below 1 mg/L in the most sensitive species).  
  
LC50 (Oncorhynchus mykiss (rainbow trout)): 0,00019 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,000051 mg/l  
Exposure time: 48 h  
Test Type: semi-static test

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 1 mg/l  
Exposure time: 96 h

M-Factor (Acute aquatic toxicity) : 10.000

M-Factor (Chronic aquatic toxicity) : 10.000

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).  
Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).  
  
oral LD50: > 3950 mg/kg bodyweight.  
Species: Anas platyrhynchos (Mallard duck)  
  
dietary LC50: > 7530 mg/kg diet.  
Species: Colinus virginianus (Bobwhite quail)

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oral LD50: 0,038 micrograms/bee  
Species: Apis mellifera (bees)

contact LD50: 0,909 micrograms/bee  
Species: Apis mellifera (bees)

### Ecotoxicology Assessment

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

#### 1,2-benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,9 mg/l  
Exposure time: 96 h  
Test Type: flow-through test  
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,7 mg/l  
Exposure time: 48 h  
Test Type: flow-through test  
Method: OECD Test Guideline 202 or Equivalent

LC50 (Mysid shrimp (Mysidopsis bahia)): 1,9 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 0,8 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201 or Equivalent

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,21 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201 or Equivalent

ErC50 (diatom Skeletonema costatum): 0,36 mg/l  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201 or Equivalent

NOEC (diatom Skeletonema costatum): 0,15 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: static test  
Method: OECD Test Guideline 201 or Equivalent

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 (Bacteria (active sludge)): 28,52 mg/l  
Exposure time: 3 h



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Test Type: Respiration inhibition of activated sludge

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Toxicity to fish : LC50 (Freshwater fish): 10 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3 - 10 mg/l  
Exposure time: 48 h  
Method: OECD Test Guideline 202 or Equivalent

Toxicity to algae/aquatic plants : ErC50 (Marine algae (Skeletonema costatum)): 2,5 mg/l  
End point: Cell Density  
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

### **Calcium ammonium nitrate:**

Toxicity to fish : LC50 (Cyprinus carpio (Carp)): 447 mg/l  
Exposure time: 48 h  
Test Type: Static

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna): > 100 mg/l  
Exposure time: 48 h  
Test Type: Static  
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l  
End point: Growth rate  
Exposure time: 72 h  
Test Type: Static  
Method: OECD Test Guideline 201

## 12.2 Persistence and degradability

### Components:

#### **lambda-cyhalothrin (ISO):**

Biodegradability : Remarks: Chemical degradation (hydrolysis) is expected in the environment within days to weeks.

#### **1,2-benzisothiazol-3(2H)-one:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 24 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301B or Equivalent  
Remarks: Abiotic degradation: The material is rapidly degradable by abiotic means.

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

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Biodegradability : Result: Not biodegradable  
Remarks: Biodegradation may occur under aerobic conditions (in the presence of oxygen).  
Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation: 30 - 41 %  
Exposure time: 28 d  
Method: OECD Test Guideline 301D or Equivalent  
Remarks: 10-day Window: Fail

### 12.3 Bioaccumulative potential

#### Components:

##### **lambda-cyhalothrin (ISO):**

Partition coefficient: n-octanol/water : log Pow: 7 (20 °C)  
Remarks: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

##### **1,2-benzisothiazol-3(2H)-one:**

Bioaccumulation : Species: Fish  
Bioconcentration factor (BCF): 3,2  
Method: Calculated.

Partition coefficient: n-octanol/water : log Pow: 1,19  
Method: OECD Test Guideline 117 or Equivalent  
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

##### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)  
Bioconcentration factor (BCF): 61 - 115  
Method: Estimated.

Partition coefficient: n-octanol/water : log Pow: 2,9 - 6,1  
Method: OECD Test Guideline 117 or Equivalent  
Remarks: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

### 12.4 Mobility in soil

#### Components:

##### **lambda-cyhalothrin (ISO):**

Distribution among environmental compartments : Koc: > 38000  
Remarks: Expected to be relatively immobile in soil (Koc > 5000).

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### **1,2-benzisothiazol-3(2H)-one:**

Distribution among environmental compartments : Koc: 104  
Method: Estimated.  
Remarks: Potential for mobility in soil is high (Koc between 50 and 150).  
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Distribution among environmental compartments : Remarks: No relevant data found.

## 12.5 Results of PBT and vPvB assessment

### **Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher..

### **Components:**

#### **lambda-cyhalothrin (ISO):**

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT)..

#### **1,2-benzisothiazol-3(2H)-one:**

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT)..

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT)..

## 12.6 Endocrine disrupting properties

### **Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

### **Product:**

Environmental fate and pathways : Waste water from equipment Cleaning shall be disposed according to local and national regulation.

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### Components:

#### **lambda-cyhalothrin (ISO):**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **1,2-benzisothiazol-3(2H)-one:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

#### **Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified:**

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Product : If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.  
If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

ADR	: UN 3352
RID	: UN 3352
IMDG	: UN 3352
IATA	: UN 3352

### 14.2 UN proper shipping name

ADR	: PYRETHROID PESTICIDE, LIQUID, TOXIC (Lambda-cyhalothrin)
RID	: PYRETHROID PESTICIDE, LIQUID, TOXIC (Lambda-cyhalothrin)
IMDG	: PYRETHROID PESTICIDE, LIQUID, TOXIC (Lambda-cyhalothrin)

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**IATA** : Pyrethroid pesticide, liquid, toxic  
(Lambda-cyhalothrin)

### 14.3 Transport hazard class(es)

**ADR** : 6.1  
**RID** : 6.1  
**IMDG** : 6.1  
**IATA** : 6.1

### 14.4 Packing group

**ADR**  
Packing group : III  
Classification Code : T6  
Hazard Identification Number : 60  
Labels : 6.1  
Tunnel restriction code : (E)

**RID**  
Packing group : III  
Classification Code : T6  
Hazard Identification Number : 60  
Labels : 6.1

**IMDG**  
Packing group : III  
Labels : 6.1  
EmS Code : F-A, S-A  
Remarks : Stowage category A

**IATA (Cargo)**  
Packing instruction (cargo aircraft) : 663  
Packing instruction (LQ) : Y642  
Packing group : III  
Labels : Toxic

**IATA (Passenger)**  
Packing instruction (passenger aircraft) : 655  
Packing instruction (LQ) : Y642  
Packing group : III  
Labels : Toxic

### 14.5 Environmental hazards

**ADR**  
Environmentally hazardous : no

**RID**  
Environmentally hazardous : no

**IMDG**  
Marine pollutant : yes

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### 14.6 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.

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

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## SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	H2	ACUTE TOXIC
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	E1	ENVIRONMENTAL HAZARDS
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	34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams),(d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)
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Installations classified for the protection of the environment (Environment Code R511-9) : 4510

### 15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.

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### SECTION 16: Other information

#### Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

#### Full text of H-Statements

H301	: Toxic if swallowed.
H302	: Harmful if swallowed.
H304	: May be fatal if swallowed and enters airways.
H312	: Harmful in contact with skin.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H330	: Fatal if inhaled.
H336	: May cause drowsiness or dizziness.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

#### Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
Eye Dam.	: Serious eye damage
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
STOT SE	: Specific target organ toxicity - single exposure
Corteva OEL	: Corteva Occupational Exposure Limit
Corteva OEL / STEL	: Short term exposure limit
Corteva OEL / TWA	: Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; 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; 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 -

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International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

#### Classification of the mixture:

Acute Tox. 3	H301
Acute Tox. 2	H330
Eye Dam. 1	H318
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

#### Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Based on product data or assessment
Calculation method

Product code: 3PP-Artemide

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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