EFORIA 247 ZC

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
5.0	28.03.2022	S1484028581	

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

1.1 Product identifier

Trade name	:	EFORIA 247 ZC
Design code	:	A13623F

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

Use of the Substance/Mixture	:	Insecticide

1.3 Details of the supplier of the safety data sheet

Company	:	Syngenta Crop Protection AG Rosentalstrasse 67, Postfach CH-4002 Basel Switzerland
Telephone	:	+41 61 323 11 11
Telefax	:	+41 61 323 12 12
E-mail address of person responsible for the SDS	:	sds.ch@syngenta.com

1.4 Emergency telephone number

Emergency telephone number	:	+44 1484 538444

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Reproductive toxicity, Category 2	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
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 : Warning

Hazard statements :
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.

Hazardous components which must be listed on the label:

thiamethoxam (ISO)
lambda-cyhalothrin (ISO)
1,2-benzisothiazol-3(2H)-one

Additional Labelling

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

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.

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.

May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
thiamethoxam (ISO)	153719-23-4 428-650-4 613-267-00-9 01-0000017497-60	Flam. Sol. 1; H228 Acute Tox. 4; H302 Repr. 2; H361fd Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 10 Acute toxicity estimate Acute oral toxicity: 780 mg/kg	>= 10 - < 20
lambda-cyhalothrin (ISO)	91465-08-6 415-130-7 607-252-00-6	Acute Tox. 3; H301 Acute Tox. 2; H330 Acute Tox. 3; H311 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10,000 M-Factor (Chronic aquatic toxicity): 10,000	>= 2.5 - < 10
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Not Assigned 922-153-0 01-2119451097-39	Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 2.5 - < 10
lignosulfonic acid, ethoxylated, sodium salts	68611-14-3	Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	>= 1 - < 10

		(Respiratory system)	
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6 01-2120761540-60	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 2; H411 M-Factor (Acute aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317 >= 0.05 %	>= 0.05 - < 0.1
bronopol (INN)	52-51-7 200-143-0 603-085-00-8 01-2119980938-15	Acute Tox. 4; H302 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 (Respiratory system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 0.025 - < 0.1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.

If inhaled : Move the victim to fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control centre immediately.

In case of skin contact	:	Take off all contaminated clothing immediately. Wash off immediately with plenty of water. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.
In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.
If swallowed	:	If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms	:	Aspiration may cause pulmonary oedema and pneumonitis. Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment	:	Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Extinguishing media - small fires Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Extinguishing media - large fires Alcohol-resistant foam or Water spray
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting	:	As the product contains combustible organic components, fire will produce dense black smoke containing hazardous products of combustion (see section 10). Exposure to decomposition products may be a hazard to health.

5.3 Advice for firefighters

Special protective equipment	:	Wear full protective clothing and self-contained breathing

for firefighters		apparatus.
Further information	:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

6.4 Reference to other sections

For disposal considerations see section 13., Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	No special protective measures against fire required. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	No special storage conditions required. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

7.3 Specific end use(s)

Specific use(s)	:	For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
thiamethoxam (ISO)	153719-23-4	TWA	3 mg/m3	Syngenta
lambda-cyhalothrin (ISO)	91465-08-6	TWA	0.04 mg/m3 (Skin)	Syngenta
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Not Assigned	TWA	8 ppm 50 mg/m3	Supplier
propane-1,2,3-triol	56-81-5	TWA (inhalable dust)	50 mg/m3	CH SUVA
	Further information: Harm to the unborn child is not to be expected when the OEL-value is respected			
		STEL (inhalable dust)	100 mg/m3	CH SUVA
	Further information: Harm to the unborn child is not to be expected when the OEL-value is respected			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
thiamethoxam (ISO)	Consumers	Oral	Long-term systemic effects	0.088 mg/kg bw/day
	Consumers	Dermal	Long-term systemic effects	0.44 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0.153 mg/m3
	Workers	Dermal	Long-term systemic effects	1.23 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	0.868 mg/m3
propane-1,2,3-triol	Workers	Inhalation	Long-term local effects	220 mg/m3
	Consumers	Inhalation	Long-term local effects	132 mg/m3
hydrocarbons, C10-C13, aromatics, <1% naphthalene	Workers	Inhalation	Long-term systemic effects	151 mg/m3
	Workers	Dermal	Long-term systemic effects	12.5 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32 mg/m3
	Consumers	Dermal	Long-term systemic effects	7.5 mg/kg

	Consumers	Oral	Long-term systemic effects	7.5 mg/kg
bronopol (INN)	Workers	Inhalation	Long-term systemic effects	3.5 mg/m3
	Workers	Inhalation	Acute systemic effects	10.5 mg/m3
	Workers	Inhalation	Long-term local effects	2.5 mg/m3
	Workers	Inhalation	Acute local effects	2.5 mg/m3
	Workers	Dermal	Long-term systemic effects	2 mg/kg
	Workers	Dermal	Acute systemic effects	6 mg/kg
	Workers	Dermal	Long-term local effects	0.008 mg/cm2
	Workers	Dermal	Acute local effects	0.008 mg/cm2
	Consumers	Inhalation	Long-term systemic effects	0.6 mg/m3
	Consumers	Inhalation	Acute systemic effects	1.8 mg/m3
	Consumers	Inhalation	Long-term local effects	0.6 mg/m3
	Consumers	Inhalation	Acute local effects	0.6 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.7 mg/kg
	Consumers	Dermal	Acute systemic effects	2.1 mg/kg
	Consumers	Dermal	Long-term local effects	0.004 mg/cm2
	Consumers	Dermal	Acute local effects	0.004 mg/cm2
	Consumers	Oral	Long-term systemic effects	0.18 mg/kg
	Consumers	Oral	Acute systemic effects	0.5 mg/kg
1,2-benzisothiazol-3(2H)-one	Workers	Inhalation	Long-term systemic effects	6.81 mg/m3
	Workers	Dermal	Long-term systemic effects	0.966 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.2 mg/m3
	Consumers	Dermal	Long-term systemic effects	0.345 mg/kg

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

Substance name	Environmental Compartment	Value
thiamethoxam (ISO)	Fresh water	0.0003 mg/l
	Freshwater - intermittent	0.0003 mg/l
	Marine water	0.0112 mg/l
	Marine water - intermittent	0.0069 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.001 mg/kg

	Marine sediment	0.0001 mg/kg
	Soil	0.008 mg/kg
propane-1,2,3-triol	Sewage treatment plant	1000 mg/l
bronopol (INN)	Fresh water	0.01 mg/l
	Marine water	0.001 mg/l
	Freshwater - intermittent	0.003 mg/l
	Sewage treatment plant	0.43 mg/l
	Fresh water sediment	0.041 mg/kg
	Marine sediment	0.003 mg/kg
	Soil	0.5 mg/kg
1,2-benzisothiazol-3(2H)-one	Fresh water	0.00403 mg/l
	Marine water	0.000403 mg/l
	Sewage treatment plant	1.03 mg/l
	Fresh water sediment	0.0499 mg/kg
	Marine sediment	0.00499 mg/kg
	Freshwater - intermittent	0.0011 mg/l
	Marine water - intermittent	0.000110 mg/l
	Soil	3 mg/kg

8.2 Exposure controls

Engineering measures

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated.

The extent of these protection measures depends on the actual risks in use.

Maintain air concentrations below occupational exposure standards.
Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Eye protection : No special protective equipment required.
Hand protection

Material : Nitrile rubber
Break through time : > 480 min
Glove thickness : 0.5 mm

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical

breakthrough.
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Impervious clothing

Respiratory protection : No personal respiratory protective equipment normally required.
When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Protective measures : The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

Environmental exposure controls

Water :

Prevent further leakage or spillage if safe to do so.
Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	liquid
Colour	:	brown
Odour	:	No data available
Odour Threshold	:	No data available
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flammability	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash

Auto-ignition temperature	:	445 °C
Decomposition temperature	:	No data available
pH	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	1.117 g/cm3
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Evaporation rate	:	No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

None reasonably foreseeable.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid : No decomposition if used as directed.

10.5 Incompatible materials

Materials to avoid : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11: Toxicological information

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

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

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 310.2 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.15 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Components:

thiamethoxam (ISO):

Acute oral toxicity : Acute toxicity estimate: 780 mg/kg
Method: Acute toxicity estimate according to Regulation (EC) No. 1272/2008

Acute inhalation toxicity : LC50 (Rat, male and female): > 3.72 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

lambda-cyhalothrin (ISO):

Acute oral toxicity	:	LD50 (Rat, female): 56 mg/kg
Acute inhalation toxicity	:	LC50 (Rat, male and female): 0.06 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat, male): 632 mg/kg

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

Acute oral toxicity	:	LD50 (Rat, male): 670 mg/kg
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity

bronopol (INN):

Acute oral toxicity	:	Assessment: The component/mixture is moderately toxic after single ingestion.
Acute dermal toxicity	:	Assessment: The component/mixture is moderately toxic after single contact with skin.

Skin corrosion/irritation

Product:

Species	:	Rabbit
Result	:	No skin irritation
Remarks	:	Based on data from similar materials

Components:

thiamethoxam (ISO):

Species	:	Rabbit
Result	:	No skin irritation

lambda-cyhalothrin (ISO):

Species	:	Rabbit
Result	:	No skin irritation
Remarks	:	May cause temporary itching, tingling, burning or numbness of exposed skin, called paresthesia.

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Result	:	Repeated exposure may cause skin dryness or cracking.

lignosulfonic acid, ethoxylated, sodium salts:

Result	:	Irritating to skin.

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

Species	:	Rabbit
Result	:	Mild skin irritation

bronopol (INN):

Result	:	Irritating to skin.

Serious eye damage/eye irritation

Product:

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Based on data from similar materials

Components:

thiamethoxam (ISO):

Species	:	Rabbit
Result	:	No eye irritation

lambda-cyhalothrin (ISO):

Species	:	Rabbit
Result	:	No eye irritation

lignosulfonic acid, ethoxylated, sodium salts:

Result	:	Eye irritation

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

Species	:	Rabbit
Result	:	Risk of serious damage to eyes.

bronopol (INN):

Result	:	Risk of serious damage to eyes.

Respiratory or skin sensitisation

Product:

Species	:	Guinea pig
Result	:	Did not cause sensitisation on laboratory animals.
Remarks	:	Based on data from similar materials

Species	:	Humans
Result	:	Probability or evidence of skin sensitisation in humans

Components:

thiamethoxam (ISO):

Species	:	Guinea pig
Result	:	Did not cause sensitisation on laboratory animals.

lambda-cyhalothrin (ISO):

Test Type	:	Maximisation Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Result	:	Does not cause skin sensitisation.

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

Result	:	Probability or evidence of skin sensitisation in humans

Germ cell mutagenicity

Components:

thiamethoxam (ISO):

Germ cell mutagenicity-Assessment	:	Animal testing did not show any mutagenic effects.

lambda-cyhalothrin (ISO):

Germ cell mutagenicity-Assessment	:	Animal testing did not show any mutagenic effects.

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

Germ cell mutagenicity-Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Components:

thiamethoxam (ISO):

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

lambda-cyhalothrin (ISO):

Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

Components:

thiamethoxam (ISO):

Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

lambda-cyhalothrin (ISO):

Reproductive toxicity - Assessment	:	Weight of evidence does not support classification for reproductive toxicity

STOT - single exposure

Components:

thiamethoxam (ISO):

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

lambda-cyhalothrin (ISO):

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

lignosulfonic acid, ethoxylated, sodium salts:

Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

bronopol (INN):

Assessment	:	The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT - repeated exposure

Components:

thiamethoxam (ISO):

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

lambda-cyhalothrin (ISO):

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

Aspiration toxicity

Components:

hydrocarbons, C10-C13, aromatics, <1% naphthalene:
May be fatal if swallowed and enters airways.

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.

SECTION 12: Ecological information

12.1 Toxicity

Components:

thiamethoxam (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h EC50 (Cloeon sp.): 0.014 mg/l Exposure time: 48 h EC50 (Chironomus riparius (harlequin fly)): 0.035 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 81.8 mg/l Exposure time: 72 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 81.8 mg/l End point: Growth rate Exposure time: 72 h
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l

		Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: > 100 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test NOEC: > 20 mg/l Exposure time: 88 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early-life Stage
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 100 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0.01 mg/l Exposure time: 30 d Species: Chironomus riparius (Midge larvae)
M-Factor (Chronic aquatic toxicity)	:	10

lambda-cyhalothrin (ISO):

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 0.000078 mg/l Exposure time: 96 h LC50 (Ictalurus punctatus (channel catfish)): 0.00016 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.00036 mg/l Exposure time: 48 h LC50 (Americamysis): 0.000007 mg/l Exposure time: 48 h EC50 (Hyalella azteca (Amphipod)): 0.000002 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 0.31 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	:	10,000
Toxicity to microorganisms	:	EC50 (activated sludge): > 100 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	:	NOEC: 0.000031 mg/l Exposure time: 300 d Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0.000002 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0.00022 µg/l Exposure time: 28 d Species: Americamysis
M-Factor (Chronic aquatic toxicity)	:	10,000

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l Exposure time: 96 h Remarks: Information given is based on data obtained from similar substances.
Toxicity to daphnia and other aquatic invertebrates	:	EL50 (Daphnia magna (Water flea)): 1.1 mg/l Exposure time: 48 h Remarks: Information given is based on data obtained from similar substances.
Toxicity to algae/aquatic plants	:	EL50 (Raphidocelis subcapitata (freshwater green alga)): 7.9 mg/l End point: Growth rate Exposure time: 72 h Remarks: Information given is based on data obtained from similar substances. NOELR (Raphidocelis subcapitata (freshwater green alga)): 0.22 mg/l End point: Growth rate Exposure time: 72 h Remarks: Information given is based on data obtained from similar substances.

Ecotoxicology Assessment

Chronic aquatic toxicity	:	Toxic to aquatic life with long lasting effects.

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

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 2.18 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.94 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.15 mg/l Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)): 0.04 mg/l
End point: Growth rate
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC: 0.3 mg/l
Exposure time: 28 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.7 mg/l
Exposure time: 21 d
Species: Daphnia (water flea)

bronopol (INN):

Toxicity to algae/aquatic plants : NOEC (algae): 0.0025 mg/l
Exposure time: 72 h

EC50 (algae): 0.068 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 1

12.2 Persistence and degradability

Components:

thiamethoxam (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 11 d
Remarks: Product is not persistent.

lambda-cyhalothrin (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 7 d
Remarks: Product is not persistent.

hydrocarbons, C10-C13, aromatics, <1% naphthalene:

Biodegradability : Result: Readily biodegradable.

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

Biodegradability : Result: rapidly degradable

bronopol (INN):

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

thiamethoxam (ISO):

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: -0.13 (25 °C)

lambda-cyhalothrin (ISO):

Bioaccumulation : Remarks: Bioaccumulates

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

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

12.4 Mobility in soil

Components:

thiamethoxam (ISO):

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 51 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

lambda-cyhalothrin (ISO):

Distribution among environmental compartments : Remarks: immobile

Stability in soil : Dissipation time: 56 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

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:

thiamethoxam (ISO):

Assessment : This substance is not considered to be persistent,

bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

lambda-cyhalothrin (ISO):

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

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

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 3082
ADR	:	UN 3082
RID	:	UN 3082
IMDG	:	UN 3082
IATA	:	UN 3082

14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND THIAMETHOXAM)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND THIAMETHOXAM)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND THIAMETHOXAM)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN AND THIAMETHOXAM)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (LAMBDA-CYHALOTHRIN AND THIAMETHOXAM)

14.3 Transport hazard class(es)

ADN	:	9
ADR	:	9
RID	:	9
IMDG	:	9
IATA	:	9

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

ADR

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

Tunnel restriction code : (-)

RID

Packing group	:	III
Classification Code	:	M6
Hazard Identification Number	:	90
Labels	:	9

IMDG

Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F

IATA (Cargo)

Packing instruction (cargo aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft)	:	964
Packing instruction (LQ)	:	Y964
Packing group	:	III
Labels	:	Miscellaneous

14.5 Environmental hazards

ADN
Environmentally hazardous : yes

ADR
Environmentally hazardous : yes

RID
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

IATA (Passenger)
Environmentally hazardous : yes

IATA (Cargo)
Environmentally hazardous : yes

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.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 3 styrene chlorobenzene
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	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
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	thiamethoxam (ISO)
PIC Ordinance, ChemPICO (814.82)	:	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.

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.
Article 13 Maternity ordinance (SR 822.111.52): Expectant and nursing mothers are only permitted to come into contact with this product during the course of their work if, based on a risk assessment carried out in accordance with Article 63 of Ordinance 1 on the Employment Act (ArGV 1) (SR 822.111), the chemicals in question have been found not to cause any specific harm to mothers or children or if such harm can be ruled out by taking appropriate protective measures.
Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.
Article 4 para. 4 of the Ordinance on the protection of young people in the workplace (SR 822.115) and Article 1 lit. f of the EAER regulation on hazardous work and young people (SR 822.115.2): Young people undergoing basic vocational training may only work with this product if the relevant training ordinance makes provision for them to do so with a view to enabling them to achieve their training objectives and if the preconditions for the training plan have been met and the applicable age restrictions have been complied with. Young people who are not completing any basic vocational training are not permitted to work with this product. Employees of either sex who are under 18 years old are classed as young people.

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

H228	:	Flammable solid.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H311	:	Toxic in contact with skin.
H312	:	Harmful in contact with skin.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H330	:	Fatal if inhaled.
H335	:	May cause respiratory irritation.
H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
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.
EUH066	:	Repeated exposure may cause skin dryness or cracking.

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
Eye Irrit.	:	Eye irritation
Flam. Sol.	:	Flammable solids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
CH SUVA	:	Switzerland. Limit values at the work place
CH SUVA / TWA	:	Time Weighted Average
CH SUVA / STEL	:	Short Term Exposure Limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - 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 - 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; TECI - Thailand Existing Chemicals 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:		**Classification procedure:**
Acute Tox. 4	H302	Based on product data or assessment
Skin Sens. 1	H317	Based on product data or assessment
Repr. 2	H361fd	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information 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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