

DEMAND DUO

Version	Revision Date:	SDS Number:	Date of last issue: 12.10.2021
1.2	01.10.2026	S00031136963	Date of first issue: 28.02.2020

SECTION 1: IDENTIFICATION

Product name : DEMAND DUO

Design code : A18484C

Manufacturer or supplier's detailsCompany : Syngenta Australia Pty Ltd (ABN 33 002 933 717)
www.syngenta.com.auAddress : 2 Lyonpark Road
Macquarie Park NSW 2113
Australia

Telephone : (02) 8014 5200

Emergency telephone number : 13 11 26 (Poison Information Centre)
1800 033 111 (Syngenta)

Telefax : (02) 8876 8446

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity (Oral) : Category 4

Skin sensitisation : Category 1

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.Precautionary statements : **Prevention:**
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.

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Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Disposal:

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

Other hazards which do not result in classification

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
thiamethoxam (ISO)	153719-23-4	≥ 10 -< 30
propane-1,2,3-triol	56-81-5	< 10
propane-1,2-diol	57-55-6	< 10
lambda-cyhalothrin (ISO)	91465-08-6	< 10
Hydrocarbons, C9, Aromatics	128601-23-0	≥ 1 -< 10
lignosulfonic acid, ethoxylated, sodium salts	68611-14-3	< 10
1,2-benzisothiazol-3(2H)-one	2634-33-5	≥ 0.05 -< 0.1

SECTION 4. 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 |

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Most important symptoms and effects, both acute and delayed	:	container or label. Do NOT induce vomiting. Aspiration may cause pulmonary oedema and pneumonitis. Skin contact paresthesia effects (itching, tingling, burning or numbness) are transient, lasting up to 24 hours.
Notes to physician	:	Harmful if swallowed. May cause an allergic skin reaction. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

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.
Specific hazards during fire-fighting	:	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.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NO _x) Chlorine compounds Fluorine compounds Sulphur oxides
Specific extinguishing methods	:	Do not allow run-off from fire fighting to enter drains or water courses. Cool closed containers exposed to fire with water spray.
Special protective equipment for firefighters	:	Wear full protective clothing and self-contained breathing apparatus.
Hazchem Code	:	•3Z

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system.

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If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and 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.

SECTION 7. HANDLING AND STORAGE

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.

Conditions for safe storage : 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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
thiamethoxam (ISO)	153719-23-4	TWA	5 mg/m ³	Syngenta
propane-1,2,3-triol	56-81-5	TWA (Mist)	10 mg/m ³	AU OEL
propane-1,2-diol	57-55-6	TWA (particulate)	10 mg/m ³	AU OEL
		TWA (Total vapour and particles))	150 ppm 474 mg/m ³	AU OEL
lambda-cyhalothrin (ISO)	91465-08-6	TWA	0.04 mg/m ³ (Skin)	Syngenta
Hydrocarbons, C9, Aromatics	128601-23-0	TWA	19 ppm 100 mg/m ³	Supplier

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

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

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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

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

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.

Eye protection : No special protective equipment required.

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

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.

Personal protective equipment should comply with relevant national standards

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid
Colour : beige brown
Odour : aromatic, strong

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Odour Threshold	:	No data available
pH	:	5.9 Concentration: 100 %w/v
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	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
Density	:	1.0775 g/ml (25 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	450 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	599 mPa,s (20 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle characteristics		
Particle size	:	No data available

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SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	No decomposition if used as directed.
Incompatible materials	:	None known.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Exposure routes	:	Ingestion Inhalation Skin contact Eye contact
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Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity	:	LD50 (Rat, female): 1,750 mg/kg Remarks: Based on data from similar materials
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Acute inhalation toxicity	:	LC50 (Rat, male and female): > 2.52 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
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Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Remarks: Based on data from similar materials
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Components:**thiamethoxam (ISO):**

Acute oral toxicity	:	LD50 (Rat, male and female): 1,563 mg/kg
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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
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Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxicity
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propane-1,2,3-triol:

Acute oral toxicity	:	LD50 (Rat, female): > 4,000 mg/kg Assessment: The substance or mixture has no acute oral toxicity
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Acute inhalation toxicity : LC50 (Rat, male): > 2.75 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rat, female): > 5,000 mg/kg

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat): > 20,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : LC50 (Rabbit): 317,042 mg/l
Exposure time: 2 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 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

Hydrocarbons, C9, Aromatics:

Acute oral toxicity : LD50 (Rat, female): 3,492 mg/kg

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

Acute oral toxicity : LD50 (Rat, male): 670 mg/kg

Acute inhalation toxicity : LC50: 0.5 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

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

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species : Rabbit

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Result : Mild skin irritation
Remarks : Based on data from similar materials

Components:**thiamethoxam (ISO):**

Species : Rabbit
Result : No skin irritation

propane-1,2,3-triol:

Species : Rabbit
Result : No skin irritation

propane-1,2-diol:

Result : No skin irritation

lambda-cyhalothrin (ISO):

Species : Rabbit
Result : No skin irritation

Hydrocarbons, C9, Aromatics:

Result : Repeated exposure may cause skin dryness or cracking.

Species : Rabbit
Result : Mild skin irritation

lignosulfonic acid, ethoxylated, sodium salts:

Result : Irritating to skin.

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

Species : Rabbit
Result : Irritating to skin.

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

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

Components:**thiamethoxam (ISO):**

Species : Rabbit
Result : No eye irritation

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propane-1,2,3-triol:

Species	: Rabbit
Result	: No eye irritation

propane-1,2-diol:

Result	: No eye irritation
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lambda-cyhalothrin (ISO):

Species	: Rabbit
Result	: No eye irritation

lignosulfonic acid, ethoxylated, sodium salts:

Result	: Eye irritation
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1,2-benzisothiazol-3(2H)-one:

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

Respiratory or skin sensitisation**Skin sensitisation**

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified due to lack of data.

Product:

Test Type	: Buehler Test
Species	: Guinea pig
Result	: Does not cause skin sensitisation.
Remarks	: Based on data from similar materials
	: Humans
	: Probability or evidence of skin sensitisation in humans

Components:**thiamethoxam (ISO):**

Species	: Guinea pig
Result	: Does not cause skin sensitisation.

propane-1,2,3-triol:

Species	: Guinea pig
Result	: Not a skin sensitizer.

propane-1,2-diol:

Result	: Does not cause skin sensitisation.
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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 high skin sensitisation rate in humans
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Chronic toxicity**Germ cell mutagenicity**

Not classified due to lack of data.

Components:**thiamethoxam (ISO):**

Germ cell mutagenicity - Assessment	: Animal testing did not show any mutagenic effects.
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propane-1,2,3-triol:

Germ cell mutagenicity - Assessment	: In vitro tests did not show mutagenic effects
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propane-1,2-diol:

Germ cell mutagenicity - Assessment	: Animal testing did not show any mutagenic effects.
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lambda-cyhalothrin (ISO):

Germ cell mutagenicity - Assessment	: Animal testing did not show any mutagenic effects.
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1,2-benzisothiazol-3(2H)-one:

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

Not classified due to lack of data.

Components:**thiamethoxam (ISO):**

Carcinogenicity - Assessment	: Weight of evidence does not support classification as a carcinogen
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propane-1,2,3-triol:

Carcinogenicity - Assessment	: No evidence of carcinogenicity in animal studies.
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propane-1,2-diol:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

lambda-cyhalothrin (ISO):

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

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

Carcinogenicity - Assessment : No data available

Reproductive toxicity

Not classified due to lack of data.

Components:**thiamethoxam (ISO):**

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

No effects on or via lactation

propane-1,2,3-triol:

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

propane-1,2-diol:

Reproductive toxicity - Assessment : No toxicity to reproduction, No effects on or via lactation

lambda-cyhalothrin (ISO):

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

No effects on or via lactation

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

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

No effects on or via lactation

STOT - single exposure

Not classified due to lack of data.

Components:**thiamethoxam (ISO):**

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

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propane-1,2-diol:

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.

Hydrocarbons, C9, Aromatics:

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

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.

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

Remarks : No data available

STOT - repeated exposure

Not classified due to lack of data.

Components:**thiamethoxam (ISO):**

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

propane-1,2,3-triol:

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

propane-1,2-diol:

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.

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

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

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Aspiration toxicity

Not classified due to lack of data.

Components:**thiamethoxam (ISO):**

No aspiration toxicity classification

propane-1,2-diol:

No aspiration toxicity classification

lambda-cyhalothrin (ISO):

No aspiration toxicity classification

Hydrocarbons, C9, Aromatics:

May be fatal if swallowed and enters airways.

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

No aspiration toxicity classification

Further information**Product:**

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

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

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

Endocrine disrupting properties**Components:****thiamethoxam (ISO):**

Assessment : Does not have endocrine disrupting properties.

lambda-cyhalothrin (ISO):

Assessment : Does not have endocrine disrupting properties.
Remarks : Weight of Evidence

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SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	:	LC50 (Cyprinus carpio (Carp)): 0.112 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna Straus): 0.110 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 100 mg/l Exposure time: 96 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 100 mg/l End point: Growth rate Exposure time: 96 h

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
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 28 d Test Type: flow-through test NOEC (Oncorhynchus mykiss (rainbow trout)): > 20 mg/l Exposure time: 88 d Test Type: Early-life Stage
Toxicity to daphnia and other	:	NOEC (Daphnia magna (Water flea)): 100 mg/l

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aquatic invertebrates (Chronic toxicity)

Exposure time: 21 d

NOEC (*Chironomus riparius* (Midge larvae)): 0.01 mg/l

Exposure time: 30 d

Toxicity to microorganisms

: EC50 (activated sludge): > 100 mg/l

Exposure time: 3 h

propane-1,2-diol:

Toxicity to fish

: LC50 (*Oncorhynchus mykiss* (rainbow trout)): 40,613 mg/l

Exposure time: 96 h

Test Type: static test

Toxicity to daphnia and other aquatic invertebrates

: (*Ceriodaphnia dubia* (water flea)): 18,340 mg/l

Exposure time: 48 h

Test Type: static test

Toxicity to algae/aquatic plants

: ErC50 (*Raphidocelis subcapitata* (freshwater green alga)): 19,000 mg/l

Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

: NOEC (*Ceriodaphnia dubia* (Water flea)): 13,020 mg/l

Exposure time: 7 d

Test Type: semi-static test

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)

: 100,000

Toxicity to fish (Chronic toxicity)

: NOEC (*Pimephales promelas* (fathead minnow)): 0.000031 mg/l

Exposure time: 300 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

: NOEC (*Daphnia magna* (Water flea)): 0.000002 mg/l

Exposure time: 21 d

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ic toxicity)

NOEC (Americamysis): 0.00022 µg/l
Exposure time: 28 d

M-Factor (Chronic aquatic toxicity) : 100,000

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

Hydrocarbons, C9, Aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 2.9 mg/l
Exposure time: 72 h

NOELR (Raphidocelis subcapitata (freshwater green alga)): 1.0 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOELR (Oncorhynchus mykiss (rainbow trout)): 1.228 mg/l
Exposure time: 28 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR (Daphnia magna (Water flea)): 2.144 mg/l
Exposure time: 21 d

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

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.055 mg/l
End point: Growth rate
Exposure time: 72 h

Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0.21 mg/l
Exposure time: 28 d

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Persistence and degradability**Components:****thiamethoxam (ISO):**

Biodegradability : Result: Not readily biodegradable.

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

propane-1,2-diol:

Biodegradability : Result: Readily biodegradable.

lambda-cyhalothrin (ISO):

Biodegradability : Result: Not readily biodegradable.

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

Hydrocarbons, C9, Aromatics:

Biodegradability : Result: Readily biodegradable.

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

Biodegradability : Result: Not readily biodegradable.

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.

Mobility in soil**Components:****thiamethoxam (ISO):**

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 51 d

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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.

Other adverse effects

Components:

thiamethoxam (ISO):

Results of PBT and vPvB assessment : Not persistent, bioaccumulative, and toxic (PBT).

lambda-cyhalothrin (ISO):

Results of PBT and vPvB assessment : Not persistent, bioaccumulative, and toxic (PBT).
Remarks: Weight of Evidence

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

Results of PBT and vPvB assessment : Not persistent, bioaccumulative, and toxic (PBT).

Global warming potential

Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) of the United Nations Framework Convention on Climate Change (UNFCCC)

Components:

1,2-dichloroethane:

20-year global warming potential: 4.68
100-year global warming potential: 1.3
500-year global warming potential: 0.371
Atmospheric lifetime: 0.225 yr
Radiative efficiency: 0.009 Wm²ppb
Further information: Chlorocarbons and Hydrochlorocarbons

Endocrine disrupting properties

Components:

lambda-cyhalothrin (ISO):

Assessment : Does not have endocrine disrupting properties.
Remarks : Weight of Evidence

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.

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Where possible recycling is preferred to disposal or incineration.

If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Non-returnable containers:
Triple rinse containers.
Add rinsings to spray tank
If recycling, replace cap and return clean containers to recycler or designated collection point. Containers marked with the drumMUSTER container logo can be taken to a drumMUSTER collection site (02 6206 6868, www.drummuster.org.au). Empty containers can be landfilled, when in accordance with the local regulations.

If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

Returnable containers:
Empty contents fully into application equipment. Close all valves and return to point of supply for refill or storage.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN)
Class	:	9
Packing group	:	III
Labels	:	9
Environmentally hazardous	:	yes
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (LAMBDA-CYHALOTHRIN)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

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IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes
Remarks	:	This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**ADG**

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (LAMBDA-CYHALOTHRIN)
Class	:	9
Packing group	:	III
Labels	:	9
Hazchem Code	:	•3Z
Environmentally hazardous	:	yes
Remarks	:	Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to the Australian Dangerous Goods Code when transported by road or rail in: packagings, IBC's, or any other receptacle not exceeding 500 kg / 500 litres.

Special precautions for user

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

SECTION 15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture**

Therapeutic Goods (Poisons Standard) Instrument	:	Schedule 5 (Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical)
Prohibition/Licensing Requirements	:	There is no applicable prohibition, authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

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National Code of Practice for Chemicals of Security Concern	:	sulphuric acid Listed
Product Registration Number	:	APVMA Approval No. 85595

SECTION 16: ANY OTHER RELEVANT INFORMATION

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Full text of other abbreviations

AU OEL	:	Australia. Workplace Exposure Standards for Airborne Contaminants.
Syngenta	:	Syngenta Occupational Exposure Limit

AU OEL / TWA	:	Exposure standard - time weighted average
Syngenta / TWA	:	Time weighted average

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 Harmonised 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; 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 - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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

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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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