

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

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

1.1 Product identifier

Product name KARIS™ 10 CS

Other means of identification

Product code 50002399

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

Use of the Sub- : Insecticide
stance/Mixture

Recommended restrictions : Use as recommended by the label.
on use

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Agro Limited
Rectors Lane, Pentre
Flintshire
CH5 2DH
United Kingdom

Telephone: + 44 1244 537370
E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
England and Wales: 44-870-8200418 (CHEMTREC)

Medical emergency:
England and Wales: 111
Scotland: 84 54 24 2424

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK
SI 2019/720, and UK SI 2020/1567)**

Acute toxicity, Category 4

H302: Harmful if swallowed.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0	Revision Date: 05.06.2025	SDS Number: 50002399	Date of last issue: - Date of first issue: 05.06.2025
----------------	------------------------------	-------------------------	--

Acute toxicity, Category 4

H332: Harmful if inhaled.

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) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms

:



Signal word

:

Warning

Hazard statements

:

H302 + H332 Harmful if swallowed or if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

:

Prevention:

P261 Avoid breathing mist or vapours.

P264 Wash skin thoroughly after handling.

Response:

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

P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P391 Collect spillage.

Disposal:

P501 Dispose of contents/container as hazardous waste in accordance with local regulations.

Hazardous components which must be listed on the label:

lambda-cyhalothrin (ISO)

Additional Labelling

EUH401

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

For special phrases (SP) and safety intervals, consult the label.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0	Revision Date: 05.06.2025	SDS Number: 50002399	Date of last issue: - Date of first issue: 05.06.2025
----------------	------------------------------	-------------------------	--

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. 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. 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
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5 265-198-5 649-424-00-3	Asp. Tox. 1; H304	>= 1 - < 10
Substances with a workplace exposure limit :			
propane-1,2-diol	57-55-6 200-338-0		>= 20 - < 30

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0	Revision Date: 05.06.2025	SDS Number: 50002399	Date of last issue: - Date of first issue: 05.06.2025
----------------	------------------------------	-------------------------	--

- Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
- If inhaled : Remove to fresh air.
If unconscious, place in recovery position and seek medical advice.
If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
- In case of skin contact : If on clothes, remove clothes.
If on skin, rinse well with water.
Wash off with soap and plenty of water.
Get medical attention if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed

- Symptoms : On contact, lambda-cyhalothrin can cause feelings of burning, tingling or numbness in exposed areas (paraesthesia), which is harmless at low exposure, but can be quite painful, especially in the eye. The effect may result from splash, aerosol or transfer from contaminated gloves. The effect is transient, lasting up to 24 hours, but may in exceptional cases last longer. It may be considered as a warning that overexposure has occurred and that work practice should be reviewed.

- Risks : Harmful if swallowed or if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically.
If any sign of poisoning occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to a pyrethroid insecticide. Describe his/her condition and the extent of exposure. Immediately remove the exposed person from the area where the product is present.
As soon as a feeling of tingling is noted in any skin area it is recommended to immediately apply lidocaine or a vitamin E

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

cream. For this purpose, lidocaine or vitamin E cream should be available at the workplace.

A specific antidote against this substance is not known. Gastric lavage and administration of activated charcoal can be considered. Normally recovery is spontaneous.

If allowed to penetrate the skin, lambda-cyhalothrin may cause an irritation similar to sunburn. The substance will be drawn into a non-polar environment such as a fat based oil or cream. Vitamin E cream has been reported to be beneficial. Water is highly polar and will not decrease, but may prolong the irritation. Hot water may increase the pain.

For eye contamination, instillation of local anaesthetic can be considered.

Immediate medical attention is required in case of ingestion.

SECTION 5: Firefighting measures

5.1 Extinguishing media

- | | |
|--------------------------------|---|
| Suitable extinguishing media | : Dry chemical, CO ₂ , water spray or regular foam.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Unsuitable extinguishing media | : Do not spread spilled material with high-pressure water streams.
High volume water jet |

5.2 Special hazards arising from the substance or mixture

- | | |
|---------------------------------------|--|
| Specific hazards during fire-fighting | : Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : Fire may produce irritating, corrosive and/or toxic gases.
Carbon oxides
Fluorinated compounds
Halogenated compounds
Nitrogen oxides (NO _x)
Ammonia
Sulphur oxides
Sulphuric acid |

5.3 Advice for firefighters

- | | |
|---|---|
| Special protective equipment for firefighters | : Firefighters should wear protective clothing and self-contained breathing apparatus. |
| Specific extinguishing methods | : Remove undamaged containers from fire area if it is safe to do so.
Use a water spray to cool fully closed containers. |
| Further information | : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Evacuate personnel to safe areas.
Use personal protective equipment.
If it can be safely done, stop the leak.
Do not touch or walk through the spilled material.
Never return spills in original containers for re-use.
Mark the contaminated area with signs and prevent access to unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.

6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
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 : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

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 : Avoid formation of aerosol.
Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Hygiene measures : General industrial hygiene practice. Avoid contact with skin, eyes and clothing. Do not inhale aerosol.

When using do not eat or drink. When using do not smoke.
Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully re-sealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : The product is stable under normal conditions of warehouse storage. Protect from frost, fire, heat and direct sunlight. Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.
Storage of mixtures of the product with other products can increase toxicity because of extraction of the active ingredient from the capsules.

Further information on storage stability : No decomposition if stored and applied as directed.

7.3 Specific end use(s)

Specific use(s) : Registered pesticide to be used in accordance with a label approved by country-specific regulatory authorities.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
propane-1,2-diol	57-55-6	TWA (Total va-	150 ppm	GB EH40

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0 Revision Date: 05.06.2025 SDS Number: 50002399 Date of last issue: -
Date of first issue: 05.06.2025

		pour and particles)	474 mg/m3	
		TWA (particles)	10 mg/m3	GB EH40

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
ammonium sulphate	Workers	Inhalation	Long-term systemic effects	11.167 mg/m3
	Workers	Dermal	Long-term systemic effects	44.667 mg/kg
	Consumers	Inhalation	Long-term systemic effects	1.667 mg/m3
	Consumers	Dermal	Long-term systemic effects	12.8 mg/kg
	Consumers	Oral	Long-term systemic effects	6.4 mg/kg

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
ammonium sulphate	Fresh water	0.312 mg/l
	Marine water	0.0312 mg/l
	Sewage treatment plant	16.18 mg/l
	Fresh water sediment	0.063 mg/kg
	Soil	62.6 mg/kg
	Intermittent use (freshwater)	0.530 mg/l

8.2 Exposure controls

Personal protective equipment

- Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
- Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate,
butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed
with the producers of the protective gloves.
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Wear suitable protective equipment.
When using do not eat, drink or smoke.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	: liquid
Colour	: beige
Odour	: slight, aromatic
Odour Threshold	: not determined
pH	: 5.5
	Concentration: 1 %
Melting point/freezing point	: not determined
Boiling point/boiling range	: 104 °C
Flash point	: Not determined, but expected to be > 100°C if any
Upper explosion limit / Upper flammability limit	: not determined
Lower explosion limit / Lower flammability limit	: not determined
Vapour pressure	: 0.0000002 Pa (20 °C)
	0.0002 Pa (60 °C)
	0.0008 Pa (70 °C)
Relative vapour density	: not determined
Density	: 1.06 g/cm ³
Solubility(ies)	
Water solubility	: 0.005 mg/l dispersible (20 °C)
	pH: 6.5
Solubility in other solvents	: > 500 g/l
	(21 °C)
	Solvent: hexane
	> 500 g/l
	(21 °C)
	Solvent: Toluene
	> 500 g/l
	(21 °C)
	Solvent: ethyl acetate
Partition coefficient: n-octanol/water	: log Pow: 7

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Auto-ignition temperature	:	not determined
Decomposition temperature	:	not determined
Viscosity		
Viscosity, kinematic	:	ca. 142 mm ² /s

9.2 Other information

Flammability (liquids)	:	Based on available information, the classification criteria for flammability hazard are not met., may be ignitable
Particle size	:	Not applicable
Self-ignition	:	not determined

SECTION 10: Stability and reactivity

10.1 Reactivity

No decomposition if stored and applied as directed.

10.2 Chemical stability

Lambda-cyhalothrin decomposes on heating. Direct local heating such as electric heating or by steam must be avoided.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	No decomposition if stored and applied as directed.
---------------------	---	---

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks. Avoid formation of aerosol. Heating of the product will produce harmful and irritant vapours.
---------------------	---	--

10.5 Incompatible materials

Materials to avoid	:	Avoid strong acids, bases, and oxidizers
--------------------	---	--

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity	:	LD50 (Rat): > 300 - 2,000 mg/kg Method: OECD Test Guideline 423
---------------------	---	--

Acute inhalation toxicity	:	LC50 (Rat): 2.78 mg/l
---------------------------	---	-----------------------

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0	Revision Date: 05.06.2025	SDS Number: 50002399	Date of last issue: - Date of first issue: 05.06.2025
----------------	------------------------------	-------------------------	--

Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Components:

lambda-cyhalothrin (ISO):

Acute oral toxicity : LD50 (Rat, male): 79 mg/kg
LD50 (Rat, female): 56 mg/kg

Acute inhalation toxicity : LC50 (Rat): 0.06 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, male): 632 mg/kg
LD50 (Rat, female): 696 mg/kg

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

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 4.688 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
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat, male and female): 22,000 mg/kg

Acute inhalation toxicity : LC0 (Rabbit): 31.7 mg/l
Exposure time: 2 h
Test atmosphere: vapour
Remarks: no mortality

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Skin corrosion/irritation

Not classified based on available information.

Product:

Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Components:

lambda-cyhalothrin (ISO):

Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

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

Species	:	Rabbit
Assessment	:	Repeated exposure may cause skin dryness or cracking.
Result	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on data from similar materials

propane-1,2-diol:

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

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
Result	:	No eye irritation

Components:

lambda-cyhalothrin (ISO):

Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	May cause mild irritation.

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

Species	:	Rabbit
Assessment	:	No eye irritation

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Remarks : Minimal effects that do not meet the threshold for classification.
Based on data from similar materials

propane-1,2-diol:

Species : Rabbit
Method : OECD Test Guideline 405
Result : No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

Components:

lambda-cyhalothrin (ISO):

Assessment : Not a skin sensitizer.
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

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

Test Type : Maximisation Test
Species : Guinea pig
Result : Not a skin sensitizer.
Remarks : Based on data from similar materials

propane-1,2-diol:

Test Type : Maximisation Test
Species : Guinea pig
Result : negative

Germ cell mutagenicity

Not classified based on available information.

Product:

Germ cell mutagenicity- Assessment : Contains no ingredient listed as a mutagen

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Components:

lambda-cyhalothrin (ISO):

Germ cell mutagenicity- Assessment : Based on available data, the classification criteria are not met.

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

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration
Species: Rat
Application Route: inhalation (vapour)
Result: negative

propane-1,2-diol:

Genotoxicity in vitro : Test Type: reverse mutation assay
Result: negative

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

Carcinogenicity

Not classified based on available information.

Product:

Carcinogenicity - Assessment : Contains no ingredient listed as a carcinogen

Components:

lambda-cyhalothrin (ISO):

Carcinogenicity - Assessment : Based on available data, the classification criteria are not met.

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

Species : Rat, male and female
Application Route : inhalation (vapour)
Exposure time : 12 month(s)
NOAEC : 1.8 mg/l
Result : negative
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Not classifiable as a human carcinogen.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

ment

propane-1,2-diol:

Species	: Rat
Application Route	: Oral
Exposure time	: 2 Years
Result	: negative

Reproductive toxicity

Not classified based on available information.

Product:

Reproductive toxicity - Assessment : Contains no ingredient listed as toxic to reproduction

Components:

lambda-cyhalothrin (ISO):

Reproductive toxicity - Assessment : Based on available data, the classification criteria are not met.

propane-1,2-diol:

Effects on fertility : Test Type: reproductive and developmental toxicity study
Species: Mouse
Application Route: Oral
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 414
Result: Animal testing did not show any effects on fertility.
Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

Product:

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

Components:

lambda-cyhalothrin (ISO):

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

STOT - repeated exposure

Not classified based on available information.

Product:

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

Components:

lambda-cyhalothrin (ISO):

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

Repeated dose toxicity

Components:

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

Species	: Rat, male and female
NOAEC	: 0.9 - 1.8 mg/l
Application Route	: inhalation (vapour)
Exposure time	: 12 Months

propane-1,2-diol:

Species	: Rat, male and female
NOAEL	: 1,700 mg/kg
Application Route	: Oral
Exposure time	: 2 Years

Species	: Rat, male and female
NOAEL	: 1,000 mg/kg
LOAEL	: 160 mg/kg
Application Route	: Inhalation
Exposure time	: 90 Days

Aspiration toxicity

Not classified based on available information.

Product:

No aspiration toxicity classification

Components:

lambda-cyhalothrin (ISO):

No aspiration toxicity classification

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

May be fatal if swallowed and enters airways.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Experience with human exposure

Components:

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

Skin contact : Symptoms: Repeated exposure may cause skin dryness or cracking.

Further information

Product:

Remarks : This product contains microencapsulated active ingredients. The toxicity of encapsulated substances is always lower than that of the substances themselves. It approaches the toxicity of the substances only in cases where grinding actions break up the capsules, thus freeing the active ingredients.

Components:

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

Remarks : Vapour concentrations above recommended exposure levels are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anaesthetic and may have other central nervous system effects. Prolonged and/or repeated skin contact with low viscosity materials may defat the skin resulting in possible irritation and dermatitis. Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): 15.1 µl Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia magna (Water flea)): 43 µg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: ErC50 (Desmodesmus subspicatus (green algae)): 23.84 mg/l Exposure time: 96 h

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0	Revision Date: 05.06.2025	SDS Number: 50002399	Date of last issue: - Date of first issue: 05.06.2025
----------------	------------------------------	-------------------------	--

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

Components:

lambda-cyhalothrin (ISO):

Toxicity to fish	: LC50 (Salmo gairdneri): 0.24 µg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): 0.36 µg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: EC50 (Selenastrum capricornutum (green algae)): > 0.3 mg/l Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	: 10,000
Toxicity to fish (Chronic toxicity)	: NOEC: 0.25 µg/l Exposure time: 28 d Species: Cyprinodon variegatus (sheepshead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0.002 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	: 10,000
Toxicity to soil dwelling organisms	: LC50: > 1,000 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms)
Toxicity to terrestrial organisms	: LD50: > 3,950 mg/kg Species: Anas platyrhynchos (Mallard duck) LC50: 0.038 µg/bee Exposure time: 48 h End point: Acute contact toxicity Species: Apis mellifera (bees) LC50: 0.909 µg/bee Exposure time: 48 h End point: Acute oral toxicity Species: Apis mellifera (bees)

Ecotoxicology Assessment

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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

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

- | | | |
|--|---|--|
| Toxicity to fish | : | LL50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203 |
| Toxicity to daphnia and other aquatic invertebrates | : | EL50 (Daphnia magna (Water flea)): 1.4 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202 |
| Toxicity to algae/aquatic plants | : | EL50 (Pseudokirchneriella subcapitata (green algae)): 1 - 3 mg/l
Exposure time: 24 h
Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | LL50 (Tetrahymena pyriformis): 677.9 mg/l
Exposure time: 72 h
Test Type: Growth inhibition |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | EL50: 0.89 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211 |

propane-1,2-diol:

- | | | |
|--|---|---|
| Toxicity to fish | : | LC50 (Oncorhynchus mykiss (rainbow trout)): 40,613 mg/l
Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : | (Mysidopsis bahia (opossum shrimp)): 18,800 mg/l
Exposure time: 96 h |
| Toxicity to algae/aquatic plants | : | EC50 (Pseudokirchneriella subcapitata (green algae)): 34,100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 201 |
| Toxicity to microorganisms | : | EC50 (Pseudomonas putida): > 20,000 mg/l
Exposure time: 18 h |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | : | NOEC: 13,020 mg/l
Exposure time: 7 d |

12.2 Persistence and degradability

Product:

- | | | |
|------------------|---|--|
| Biodegradability | : | Remarks: No data is available on the product itself.
Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants. |
|------------------|---|--|

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Components:

lambda-cyhalothrin (ISO):

Biodegradability : Remarks: Not readily biodegradable.

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

Biodegradability : Result: Readily biodegradable.
Biodegradation: 58.6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

propane-1,2-diol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 23.6 %
Exposure time: 64 d
Method: OECD Test Guideline 306

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data is available on the product itself.

Components:

lambda-cyhalothrin (ISO):

Bioaccumulation : Remarks: Low potential for bioaccumulation

Partition coefficient: n-octanol/water : log Pow: 6.8

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

Bioaccumulation : Remarks: The product/substance has a potential to bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.72
Method: QSAR

propane-1,2-diol:

Partition coefficient: n-octanol/water : log Pow: -1.07

12.4 Mobility in soil

Product:

Distribution among environmental compartments : Medium: Soil
Remarks: No data is available on the product itself.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version 1.0	Revision Date: 05.06.2025	SDS Number: 50002399	Date of last issue: - Date of first issue: 05.06.2025
----------------	------------------------------	-------------------------	--

Components:

lambda-cyhalothrin (ISO):

Distribution among environmental compartments : Medium: Soil
Remarks: immobile

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

Distribution among environmental compartments : Remarks: Expected to partition to sediment and wastewater solids. Moderately volatile.

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.

12.6 Other adverse effects

Product:

Endocrine disrupting potential : This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Do not re-use empty containers.
Packaging that is not properly emptied must be disposed of as the unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

SECTION 14: Transport information

14.1 UN 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)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (lambda-cyhalothrin)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (lambda-cyhalothrin)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (lambda-cyhalothrin)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (lambda-cyhalothrin)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
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

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

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 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3 Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified (Number on list 3) cyclohexane (Number on list 57, 3) Silicone oil emulsion (Number on list 3) xylene (Number on list 3) ethylbenzene (Number on list 3) dibutyltin dilaurate (Number on list 30, 3)
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
Control of Major Accident Hazards Regulations 2015 (COMAH)	E1 34	ENVIRONMENTAL HAZARDS 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)

Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial and livestock rearing emissions (integrated pollution prevention
----------------------------	---	---

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

and control)
Volatile organic compounds (VOC) content: 0.48 %

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

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

TCSI	: Not in compliance with the inventory
TSCA	: Product contains substance(s) not listed on TSCA inventory.
AIIC	: Not in compliance with the inventory
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL. lambda-cyhalothrin (ISO) Silicone oil emulsion sepiolite
ENCS	: Not in compliance with the inventory
ISHL	: Not in compliance with the inventory
KECI	: Not in compliance with the inventory
PICCS	: Not in compliance with the inventory
IECSC	: Not in compliance with the inventory
NZIoC	: Not in compliance with the inventory
TECI	: Not in compliance with the inventory

15.2 Chemical safety assessment

A chemical safety assessment is not required for this product (mixture).

SECTION 16: Other information

Full text of H-Statements

H301	: Toxic if swallowed.
H304	: May be fatal if swallowed and enters airways.

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

H311 : Toxic in contact with skin.
H330 : Fatal if inhaled.
H400 : Very toxic to aquatic life.
H410 : Very toxic 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
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

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; 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

Further information

Other information :

Classification of the mixture:

Acute Tox. 4 H302

Classification procedure:

Based on product data or assessment

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by
UK REACH Regulations SI 2019/758



KARIS™ 10 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	05.06.2025	50002399	Date of first issue: 05.06.2025

Acute Tox. 4	H332	Based on product data or assessment
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

Disclaimer

FMC Corporation believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. You can contact FMC Corporation to ensure that this document is the most current available from FMC Corporation. No warranty of fitness for any particular purpose, warranty of merchantability or any other warranty, expressed or implied, is made concerning the information provided herein. The information provided herein relates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

Prepared by

FMC Corporation

FMC and the FMC Logo are trademarks of FMC Corporation and/or an affiliate.

© 2021-2025 FMC Corporation. All Rights Reserved.

GB / 6N