

SAFETY DATA SHEET



VANTEX® 60 CS

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	27.06.2024	50001284	Date of first issue: 27.06.2024

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : VANTEX® 60 CS

Manufacturer or supplier's details

Company : FMC Agro Kazakhstan LLP

Address : str. Timiryazeva, 26/29
050040 Almaty
Kazakhstan

Telephone : 1 215 / 299-6000 (Corporate office in USA)

Emergency telephone number : +44 20 3885 0382 (CHEMTREC's European Regional Toll-Free Number)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical Emergency Number : All other countries: +1 651 / 632-6793 (Collect)

E-mail address : SDS-Info@fmc.com

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : Use as recommended by the label.

2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 5

Acute toxicity (Inhalation) : Category 4

Skin sensitisation : Category 1

Specific target organ toxicity - repeated exposure : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1




GHS-Labeling

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- Hazard pictograms :   
- Signal word : Warning
- Hazard statements : H303 May be harmful if swallowed.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**
P260 Do not breathe mist or vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves.
Response:
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P312 Call a POISON CENTER/ doctor if you feel unwell.
P391 Collect spillage.

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Components

Chemical name	CAS-No.	Classification	MAC value mg/m ³ / TSEL value	Concentration (% w/w)
GAMMA-CYHALOTHRIN	76703-62-3	Acute Tox.3; H301 Acute Tox.1; H330 Acute Tox.4; H312 Skin Irrit.2; H315 Eye Irrit.2A; H319 Skin Sens.1; H317 STOT RE1; H372 (Nervous system)	No data available	>= 2,5 - < 10

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		Aquatic Acute1; H400 Aquatic Chronic1; H410		
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5	Asp. Tox.1; H304 Aquatic Acute2; H401	No data available	$\geq 2,5 - < 10$
1,2-benzisothiazol-3(2H)-one	2634-33-5	Acute Tox.4; H302 Eye Dam.1; H318 Skin Sens.1; H317 Aquatic Acute1; H400 Aquatic Chronic2; H411	No data available	$\geq 0,025 - < 0,1$

For explanation of abbreviations see section 16.

4. 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.
- 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.

If breathing has stopped, apply artificial respiration.
- 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 immediately 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 : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.

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- Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : Gamma-cyhalothrin can cause feelings of burning, tingling or numbness in exposed areas (paraesthesia).
May be harmful if swallowed.
May cause an allergic skin reaction.
Harmful if inhaled.
May cause damage to organs through prolonged or repeated exposure.
- Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
- Notes to physician : 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 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, gamma-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.

5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : > 100 °C
Method: Seta closed cup
- Ignition temperature : No data available
- Upper explosion limit / Upper flammability limit : not determined
- Lower explosion limit / Lower flammability limit : not determined
- Flammability (liquids) : Not applicable
- Suitable extinguishing media : Dry chemical, CO₂, water spray or regular foam.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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|---|--|
| Unsuitable extinguishing media | : Do not spread spilled material with high-pressure water streams.
High volume water jet |
| 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.
Nitrogen oxides (NOx)
Fluorinated compounds
Halogenated compounds
Carbon oxides
Hydrogen cyanide
Chlorinated compounds |
| 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.

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. |
| Special protective equipment for firefighters | : Firefighters should wear protective clothing and self-contained breathing apparatus. |

6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| Personal precautions, protective equipment and emergency procedures | : Use personal protective equipment.
Ensure adequate ventilation.
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. |
| 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. |
| Methods and materials for containment and cleaning up | : Never return spills in original containers for re-use.
Collect as much of the spill as possible with a suitable absorbent material.
Pick up and transfer to properly labelled containers. |

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Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

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

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.
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.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
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 and extreme heat.
The product should not be allowed to dry out.

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.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

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.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

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.

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

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.
Remove and wash contaminated clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Colour : white

Odour : oily

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Odour Threshold	:	not determined
pH	:	5,71 (23 °C) Concentration: 10 g/l 1 %
Melting point/freezing point	:	< 0 °C
Boiling point/boiling range	:	Decomposition
Flash point	:	> 100 °C Method: Seta closed cup
Evaporation rate	:	not determined
Flammability (liquids)	:	Not applicable
Self-ignition	:	> 400 °C
Upper explosion limit / Upper flammability limit	:	not determined
Lower explosion limit / Lower flammability limit	:	not determined
Vapour pressure	:	Not available for this mixture.
Relative vapour density	:	not determined
Relative density	:	not determined
Density	:	1,019 g/cm ³ (20 °C)
Solubility(ies) Water solubility	:	dispersible
Partition coefficient: n-octanol/water	:	Not available for this mixture.
Auto-ignition temperature	:	No data available
Decomposition temperature	:	not determined
Viscosity Viscosity, dynamic	:	It is a non-newtonian fluid; viscosity decreases with increasing shear rate. > 10.000 mPa,s Shear rate 0.01 s ⁻¹ 45 - 130 mPa,s Shear rate 100 s ⁻¹

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Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Molecular weight	:	Not applicable
Particle size	:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Gamma-cyhalothrin decomposes on heating. Direct local heating such as electric heating or by steam must be avoided.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	Heat, flames and sparks. Protect from frost, heat and sunlight. Heating of the product will produce harmful and irritant vapours.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers
Hazardous decomposition products	:	Stable under recommended storage conditions.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

May be harmful if swallowed.
Harmful if inhaled.

Product:

Acute oral toxicity	:	LD50 Oral (Rat, female): 3.257 mg/kg Method: OECD Test Guideline 401 GLP: yes Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: Based on data from a similar product.
		LD50 Oral (Rat, male): 4.444 mg/kg Method: OECD Test Guideline 401 GLP: yes Assessment: The component/mixture is minimally toxic after single ingestion. Remarks: Based on data from a similar product.
Acute inhalation toxicity	:	LC50 (Rat): > 2,31 mg/l

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Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The component/mixture is moderately toxic after short term inhalation.
Remarks: Based on data from a similar product.

Acute dermal toxicity : LD50 Dermal (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from a similar product.

Components:

GAMMA-CYHALOTHRIN:

Acute oral toxicity : LD50 (Rat, female): ca. 55 mg/kg
Method: OECD Test Guideline 401
Symptoms: Tremors
GLP: yes

LD50 (Rat, male): > 50 mg/kg
Method: OECD Test Guideline 401
Symptoms: Tremors
GLP: yes

Acute inhalation toxicity : LC50 (Rat, female): 0,0282 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Tremors
GLP: yes

LC50 (Rat, male): 0,0402 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Symptoms: Tremors
GLP: yes

Acute dermal toxicity : LD50 (Rat, female): 1.650 mg/kg
Method: OECD Test Guideline 402
Symptoms: Tremors
GLP: yes

LD50 (Rat, male): > 1.500 mg/kg
Method: OECD Test Guideline 402
Symptoms: Tremors
GLP: yes

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

Acute oral toxicity : LD50 (Rat, male and female): > 5.000 mg/kg

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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

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

Acute oral toxicity : LD50 (Rat, male and female): 490 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
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
Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Remarks : May cause mild irritation.
Minimal effects that do not meet the threshold for classification.

Components:

GAMMA-CYHALOTHRIN:

Species : Rabbit
Assessment : Irritating to skin.
Method : OECD Test Guideline 404
Result : irritating
GLP : yes

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

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

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Species	:	Rabbit
Exposure time	:	72 h
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

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

Product:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 405
Remarks	:	May cause mild irritation. Minimal effects that do not meet the threshold for classification.

Components:

GAMMA-CYHALOTHRIN:

Species	:	Rabbit
Result	:	Eye irritation
Assessment	:	Irritating to eyes.
Method	:	OECD Test Guideline 405

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

Species	:	Rabbit
Assessment	:	No eye irritation
Remarks	:	Minimal effects that do not meet the threshold for classification. Based on data from similar materials

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

Species	:	Bovine cornea
Result	:	No eye irritation
Method	:	OECD Test Guideline 437
Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	EPA OPP 81-4

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

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

Product:

Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	OECD Test Guideline 406

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Result : The product is a skin sensitiser, sub-category 1B.
Remarks : Based on data from a similar product.

Components:

GAMMA-CYHALOTHRIN:

Exposure routes : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitisation by skin contact.

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

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

Test Type : Maximisation Test
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitisation by skin contact.

Species : Guinea pig
Method : FIFRA 81.06
Result : May cause sensitisation by skin contact.

Germ cell mutagenicity

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

Components:

GAMMA-CYHALOTHRIN:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse
Result: negative
GLP: yes

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

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Species: Rat
Application Route: inhalation (vapour)
Result: negative

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

Genotoxicity in vitro : Test Type: gene mutation test
Test system: mouse lymphoma cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Test Type: Ames test
Method: OECD Test Guideline 471
Result: negative

Test Type: Chromosome aberration test in vitro
Method: OECD Test Guideline 473
Result: positive

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay
Species: Rat (male)
Cell type: Liver cells
Application Route: Ingestion
Exposure time: 4 h
Method: OECD Test Guideline 486
Result: negative

Test Type: Micronucleus test
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative

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

Carcinogenicity

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

Components:

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.

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Reproductive toxicity

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

Components:

GAMMA-CYHALOTHRIN:

Effects on foetal development : Species: Rat
Dose: 1, 2.5, 5, 10 or 15 mg/kg bw/day
Embryo-foetal toxicity: NOEL: 2,5 mg/kg bw/day

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

Effects on fertility : Species: Rat, male
Application Route: Ingestion
General Toxicity - Parent: NOAEL: 18,5 mg/kg body weight
General Toxicity F1: NOAEL: 48 mg/kg body weight
Fertility: NOAEL: 112 mg/kg bw/day
Symptoms: No effects on reproduction parameters
Method: OPPTS 870.3800
Result: negative

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

STOT - single exposure

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

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Product:

Assessment : May cause damage to organs through prolonged or repeated exposure.

Components:

GAMMA-CYHALOTHRIN:

Target Organs : Nervous system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

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

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

Repeated dose toxicity

Components:

GAMMA-CYHALOTHRIN:

Species : Rat, male and female
NOAEL : 50 ppm
Application Route : Oral - feed
Exposure time : 13 weeks

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Species	: Rat, male and female
NOAEL	: 4,19 - 4,49 mg/kg
LOAEL	: 8,81 - 10,24 mg/kg
Application Route	: Oral - feed
Exposure time	: 13 weeks
Method	: OECD Test Guideline 407
Target Organs	: Nervous system
Symptoms	: decrease in appetite

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

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

Species	: Rat, male and female
NOAEL	: 15 mg/kg
Application Route	: Ingestion
Exposure time	: 28 d
Method	: OECD Test Guideline 407
Symptoms	: Irritation

Species	: Rat, male and female
NOAEL	: 69 mg/kg
Application Route	: Ingestion
Exposure time	: 90 d
Symptoms	: Irritation, Reduced body weight

Aspiration toxicity

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

Components:

GAMMA-CYHALOTHRIN:

The substance does not have properties associated with aspiration hazard potential.

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

May be fatal if swallowed and enters airways.

Experience with human exposure

Components:

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

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

Product:

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Remarks : On contact, the active ingredient 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.

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.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): 21 -38 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna Straus): , 83.6 µg/l
Exposure time: 48 h

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Components:

GAMMA-CYHALOTHRIN:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,07 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,1 µg/l
Exposure time: 48 h
Test Type: Static renewal test
Method: OECD Test Guideline 202

(Hyaella azteca (Amphipod)): 0,000086 µg/l
Exposure time: 96 h

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	Test Type: flow-through test Method: OPPTS 850.1010
Toxicity to algae/aquatic plants	: EC50 (algae): > 2,85 mg/l Exposure time: 72 h NOEC (Lemna gibba (duckweed)): 0,5 µg/l Exposure time: 7 d Method: OECD Test Guideline 221
M-Factor (Acute aquatic toxicity)	: 10.000
Toxicity to fish (Chronic toxicity)	: NOEC (Pimephales promelas (fathead minnow)): 0,016 µg/l End point: mortality Exposure time: 7 d Test Type: Early Life-Stage GLP: yes LOEC (Pimephales promelas (fathead minnow)): 0,04 µg/l End point: mortality Exposure time: 7 d Test Type: Early Life-Stage GLP: yes NOEC (Pimephales promelas (fathead minnow)): 0,0379 µg/l End point: Hatching success Exposure time: 35 d Test Type: flow-through test GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC (Daphnia magna (Water flea)): 0,0019 µg/l End point: reproduction Exposure time: 21 d Test Type: flow-through test Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	: 10.000
Toxicity to soil dwelling organisms	: LC50 (Eisenia fetida (earthworms)): > 1300 mg/kg dry weight (d.w.) Exposure time: 14 d
Toxicity to terrestrial organisms	: LD50 (Colinus virginianus (Bobwhite quail)): > 2.000 mg/kg LD50 (Apis mellifera (bees)): 0,005 µg/bee Exposure time: 24 h End point: Acute contact toxicity LD50 (Apis mellifera (bees)): 4,2 µg/bee Exposure time: 24 h End point: Acute oral toxicity

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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 daphnia and other aquatic invertebrates (Chronic toxicity)	:	EL50 (Daphnia magna (Water flea)): 0,89 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
Toxicity to microorganisms	:	LL50 (Tetrahymena pyriformis): 677,9 mg/l Exposure time: 72 h Test Type: Growth inhibition

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

Toxicity to fish	:	LC50 (Cyprinodon variegatus (sheepshead minnow)): 16,7 mg/l Exposure time: 96 h Test Type: static test LC50 (Oncorhynchus mykiss (rainbow trout)): 2,15 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2,9 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0,070 mg/l Exposure time: 72 h Method: OECD Test Guideline 201 NOEC (Pseudokirchneriella subcapitata (green algae)): 0,04 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to microorganisms	:	EC50 (activated sludge): 24 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209

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EC50 (activated sludge): 12,8 mg/l
Exposure time: 3 h
Test Type: Respiration inhibition
Method: OECD Test Guideline 209

Persistence and degradability

Product:

Biodegradability : Remarks: Product contains minor amounts of not readily biodegradable components, which may not be degradable in waste water treatment plants.

Components:

GAMMA-CYHALOTHRIN:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 21 %
Exposure time: 28 d

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

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

Biodegradability : Result: rapidly biodegradable
Method: OECD Test Guideline 301C

Bioaccumulative potential

Product:

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

Components:

GAMMA-CYHALOTHRIN:

Bioaccumulation : Remarks: Can accumulate in aquatic organisms.

Partition coefficient: n-octanol/water : log Pow: 4,96 (19 °C)
Method: OECD Test Guideline 107

log Pow: 5,65
Method: OECD Test Guideline 117

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

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

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Partition coefficient: n-octanol/water : log Pow: 3,72
Method: QSAR

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

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 6,62
Exposure time: 56 d
Method: OECD Test Guideline 305
Remarks: Substance is not persistent, bioaccumulative, and toxic (PBT).

Partition coefficient: n-octanol/water : log Pow: 0,7 (20 °C)
pH: 7

log Pow: 0,99 (20 °C)
pH: 5

Mobility in soil

Product:

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

Components:

GAMMA-CYHALOTHRIN:

Distribution among environmental compartments : Remarks: immobile

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

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

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

Distribution among environmental compartments : Koc: 9,33 ml/g, log Koc: 0,97
Method: OECD Test Guideline 121
Remarks: Highly mobile in soils

Other adverse effects

Product:

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.

Components:

GAMMA-CYHALOTHRIN:

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.

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Hygienic standards:

(Allowable concentration in air, water, including fishery waters, soil)

Components	Air	Water	Soil	Data Source
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified 64742-94-5	TSEL: 0,2 mg/m ³	MPC: 0,05 Milligrams per cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3	No data available	List 2 List 5

For explanation of abbreviations see section 16.

13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : 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.
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.

14. TRANSPORT INFORMATION

ADR

- UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Gamma-cyhalothrin)
Class : 9
Packing group : III
Labels : 9
Hazard Identification Number : 90
Tunnel restriction code : (-)
Environmentally hazardous : yes

IATA-DGR

- UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(Gamma-cyhalothrin)
Class : 9

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Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Gamma-cyhalothrin)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Special precautions for user

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

15. REGULATORY INFORMATION

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

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

TCSI	:	On the inventory, or 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. (S)- α -CYANO-3-PHENOXYBENZYL (1R,3R)-3-[(Z)-2-CHLORO-3,3,3-TRIFLUOROPROP-1-ENYL]-2,2-DIMETHYLCYCLOPROPANECARBOXYLATE
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

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IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

16. OTHER INFORMATION

Full text of H-Statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	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
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
List 2	:	SanPiN 1.2.3685-21 Table 1.2, Table 1.12 & Table 1.13 Tentative Safe Exposure Levels (TSEL) in the air of urban and rural settlements
List 5	:	Order of the Russian Federal Fisheries Agency "Standards of maximum permissible concentrations of harmful substances in fishery water bodies"

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; 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; 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 Chemi-

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cal 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; 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

Other information :

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