Bifenthrin 19 g/L + Malathion 409 g/L EC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	17.06.2025	50000503	Date of first issue: 17.06.2025

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

1.1 Product identifier

Product name Bifenthrin 19 g/L + Malathion 409 g/L EC

Other means of identification

Product code 50000503

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

Use of the Substance/Mixture : Insecticide

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

1.3 Details of the supplier of the safety data sheet

Supplier Address

FMC Agricultural Solutions A/S
Thyborønvej 78
DK-7673 Harboøre
Denmark

Telephone: +45 9690 9690
Telefax: +45 9690 9691
E-mail address: SDS-Info@fmc.com .

1.4 Emergency telephone number

For leak, fire, spill or accident emergencies, call:
Denmark: +45-69918573 (CHEMTREC)

Medical emergency:
Denmark: +45 82 12 12 12

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin irritation, Category 2	H315: Causes skin irritation.

Eye irritation, Category 2	H319: Causes serious eye irritation.
Carcinogenicity, Category 2	H351: Suspected of causing cancer.
Specific target organ toxicity - single exposure, Category 3, Central nervous system	H336: May cause drowsiness or dizziness.
Specific target organ toxicity - repeated exposure, Category 2	H373: May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
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.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

Disposal:

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

Hazardous components which must be listed on the label:

Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified
malathion (ISO) [containing ≤ 0,03 % isomalathion]
calcium dodecylbenzenesulphonate
bifenthrin (ISO)

Additional Labelling

EUH208 Contains malathion (ISO) [containing ≤ 0,03 % isomalathion], bifenthrin (ISO). May produce an allergic reaction.

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.

2.3 Other hazards

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

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

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

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified	64742-94-5 265-198-5 649-424-00-3	STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 50 - < 70

malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5 204-497-7 015-041-00-X	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1.000 M-Factor (Chronic aquatic toxicity): 1.000 Acute toxicity estimate Acute oral toxicity: 1.608 mg/kg	>= 30 - < 50
Tristyrylphenol ethoxylates	99734-09-5	Aquatic Chronic 3; H412	>= 2,5 - < 10
calcium dodecylbenzenesulphonate	26264-06-2 247-557-8	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 4; H413 Acute toxicity estimate Acute oral toxicity: 1.300 mg/kg	>= 1 - < 2,5
bifenthrin (ISO)	82657-04-3 607-699-00-7	Acute Tox. 2; H300 Acute Tox. 3; H331 Skin Sens. 1B; H317 Carc. 2; H351 STOT RE 1; H372 (Nervous system) Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10.000 M-Factor (Chronic aquatic toxicity): 100.000	>= 1 - < 2,5

		Acute toxicity estimate Acute oral toxicity: 42,5 mg/kg Acute inhalation toxicity (dust/mist): 0,5 mg/l	
2-ethylhexan-1-ol	104-76-7 203-234-3	Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 (Respiratory system) --- Acute toxicity estimate Acute inhalation toxicity (dust/mist): 4,3 mg/l	>= 1 - < 10

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.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

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 immediately if irritation develops and persists.
Wash contaminated clothing before re-use.

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 induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Contact with skin may cause tingling, itching, burning, or numbness at the site of contact. Inhalation may irritate the nose, throat, and lungs. Swallowing large quantities may result in throat irritation, nausea, abdominal pain, and vomiting.

Risks : Harmful if swallowed.
May be fatal if swallowed and enters airways.
Causes skin irritation.
Causes serious eye irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Decontamination procedures such as whole body washing, gastric lavage and administration of activated charcoal are often required.
Antidote: If symptoms if cholinesterase inhibition (see section 11) are present, administer atropine sulphate, which often is a lifesaving antidote, in large doses, TWO to FOUR mg intravenously or intramuscularly as soon as possible. Repeat at 5 to 10 minute intervals until signs of atropinisation appear and maintain full atropinisation until all organophosphate is metabolised.
Obidoxime chloride (Toxogonin), alternatively pralidoxime chloride(2-PAM), may be administered as an adjunct to, but not a substitute for atropine sulphate. Treatment with oxime should be maintained as long as atropine sulphate is administered.
At first sign of pulmonary oedema the patient should be given supplementary oxygen and treated symptomatically.
Relapse can occur after initial improvement. VERY CLOSE SUPERVISION OF THE PATIENT IS INDICATED FOR AT LEAST 48 HOURS, DEPENDING ON THE SEVERITY OF POISONING.
Much information on (acetyl)cholinesterase inhibition and its treatment can be found on the internet.
Malathion is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression.
If allowed to penetrate the skin, bifenthrin may cause an irrita-

tion 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.
The product contains petroleum distillates which may pose an aspiration pneumonia hazard.

For eye contamination, instillation of local anaesthetic can be considered.
If there is any sign of poisoning, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to a mixed organophosphate and pyrethroid insecticide. Describe his/her condition and the extent of exposure.
It may be helpful to show this safety data sheet to physician.
As soon as a feeling of tingling is noted in any skin area (see section 11), 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.
In an industrial setting, the antidote atropine sulphate should be available at the workplace.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Dry chemical, CO2, 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 firefighting	:	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. Oxides of phosphorus Carbon oxides Sulphur oxides Fluorinated compounds Chlorinated compounds Hydrogen chloride Hydrogen fluoride dimethyl sulphide

5.3 Advice for firefighters

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

Further information : 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.
For safety reasons in case of fire, cans should be stored separately in closed containments.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.
Ensure adequate ventilation.
If it can be safely done, stop the leak.
Keep people away from and upwind of spill/leak.
Remove all sources of ignition.
Immediately evacuate personnel to safe areas.
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 : 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).
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.

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures : 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.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No smoking. 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. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions : The product is stable when stored at temperatures not exceeding 20 - 25°C. Protect from frost and extreme heat. The product should never be heated above 55°C. Local heating above this temperature should be avoided as well.

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.

Recommended storage temperature : 5 - 30 °C

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
malathion (ISO) [containing ≤ 0,03 % isomalathion]	121-75-5	GV	5 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin.			
		S	10 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin.			
2-ethylhexan-1-ol	104-76-7	TWA	1 ppm 5,4 mg/m3	2017/164/EU
	Further information: Indicative			
		GV	1 ppm 5,4 mg/m3	DK OEL
		S	2 ppm 10,8 mg/m3	DK OEL

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

Substance name	Environmental Compartment	Value
malathion (ISO) [containing ≤ 0,03 % isomalathion]	Fresh water	1,2

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.

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	:	pale, yellow
Odour	:	aromatic
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	65 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
pH	:	4,73 Concentration: 1 % (as aqueous solution)
Viscosity		
Viscosity, kinematic	:	4,93 mm2/s (20 °C) 2,95 mm2/s (40 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Density	:	1,0276 g/cm3 (20 °C)
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Miscibility with water	:	dispersible

SECTION 10: Stability and reactivity

10.1 Reactivity

To our knowledge, the product has no special reactivities.

10.2 Chemical stability

Malathion will decompose rapidly when heated to temperatures above 100°C, significantly increasing the risk of explosion. Direct local heating such as electric heating or by steam must be avoided.
The decomposition is dependent on time as well as temperature due to self-accelerating exothermic and autocatalytic reactions. The reactions involve rearrangements and polymerisation releasing volatile malodorous and inflammable compounds such as dimethyl sulphide and methyl mercaptan.

10.3 Possibility of hazardous reactions

Hazardous reactions : None known

Vapours may form explosive mixture with air.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.
Storage at too high temperatures may induce formation of the more toxic and synergistic contaminant isomalathion.
Heating of the product will produce harmful and irritant vapours.

10.5 Incompatible materials

Materials to avoid : Avoid strong acids, bases, and oxidizers
The product can corrode metals (but does not meet the criteria for classification).
Malathion is rapidly hydrolysed at pH > 7.0.

10.6 Hazardous decomposition products

No hazardous decomposition products are known.
See subsection 5.2.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : LD50 (Rat): 1.414 mg/kg
Remarks: Based on data from a similar product.

Acute inhalation toxicity : LC50 (Rat): > 5,14 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Remarks: Based on data from a similar product.

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Remarks: Based on data from a similar product.

Components:

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, male and female): > 5,28 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Acute oral toxicity : LD50 (Rat): 1.857 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, female): 1.608 - 2.550 mg/kg
Method: OECD Test Guideline 401
Symptoms: Tremors, hypoactivity
GLP: yes

Acute inhalation toxicity : LC50 (Rat): > 5,2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: EPA OPP 81 - 3
GLP: yes
Remarks: no mortality

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: US EPA Test Guideline OPP 81-2
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.

LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The component/mixture is minimally toxic after single contact with skin.

Tristyrylphenol ethoxylates:

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 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

calcium dodecylbenzenesulphonate:

Acute oral toxicity	:	LD50 (Rat, male and female): 1.300 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	:	Remarks: Not classified
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2000 milligram per kilogram Method: OECD Test Guideline 402 Assessment: The substance or mixture has no acute dermal toxicity Remarks: Based on data from similar materials

bifenthrin (ISO):

Acute oral toxicity	:	LD50 (Rat, male and female): 56,7 mg/kg Symptoms: Convulsions, Tremors, ataxia LD50 (Mouse, female): 42,5 mg/kg Method: OPPTS 870.1100
Acute inhalation toxicity	:	LC50 (Rat, female): 0,6 - 1,2 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Convulsions LC50 (Rat, male): 1,10 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Tremors, Fatality
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2.000 mg/kg Remarks: no mortality

2-ethylhexan-1-ol:

Acute oral toxicity	:	LD50 (Rat, male): 2.047 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): 4,3 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Rat, male and female): > 3.000 mg/kg

Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

Product:

Species	:	Rabbit
Result	:	Skin irritation
Remarks	:	Based on data from a similar product.

Components:

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

Species	:	Rabbit
Result	:	No skin irritation
Assessment	:	Repeated exposure may cause skin dryness or cracking.

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Species	:	Rabbit
Method	:	US EPA Test Guideline OPP 81-5
Result	:	No skin irritation
GLP	:	yes

Tristyrylphenol ethoxylates:

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

calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

bifenthrin (ISO):

Assessment	:	No skin irritation
Method	:	EPA OPP 81-5

2-ethylhexan-1-ol:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Species	:	Rabbit
Result	:	Eye irritation
Remarks	:	Based on data from a similar product.

Components:

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

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

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Species	:	Rabbit
Method	:	EPA OPP 81-4
Result	:	No eye irritation
GLP	:	yes

Tristyrylphenol ethoxylates:

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

calcium dodecylbenzenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye
Remarks	:	Based on data from similar materials

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irreversible effects on the eye

bifenthrin (ISO):

Assessment	:	No eye irritation
Method	:	EPA OPP 81-4

2-ethylhexan-1-ol:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Irritation to eyes, reversing within 21 days

Respiratory or skin sensitisation

Skin sensitisation

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

Respiratory sensitisation

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

Product:

Species	:	Rabbit
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from a similar product.

Components:

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

Test Type	:	Buehler Test
Species	:	Guinea pig
Result	:	Does not cause skin sensitisation.
Remarks	:	Based on data from similar materials

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Exposure routes	:	Dermal
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPP 81-6
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Dermal
Species	:	mice
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.
GLP	:	yes

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

calcium dodecylbenzenesulphonate:

Test Type	:	Maximisation Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.
Remarks	:	Based on data from similar materials

bifenthrin (ISO):

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406

Result : May cause sensitisation by skin contact.
GLP : yes

Germ cell mutagenicity

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

Components:

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

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

Genotoxicity in vivo : Test Type: sister chromatid exchange assay
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative
Remarks: Based on data from similar materials

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Genotoxicity in vitro : Test Type: Ames test
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: positive
Remarks: Based on data from similar materials

Test Type: unscheduled DNA synthesis assay
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: chromosome aberration assay
Species: Rat
Result: negative
Remarks: Based on data from similar materials

Test Type: unscheduled DNA synthesis assay
Species: Rat
Result: negative
Remarks: Based on data from similar materials

Tristyrylphenol ethoxylates:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Genotoxicity in vivo : Remarks: No data available

calcium dodecylbenzenesulphonate:

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: chromosome aberration assay Species: Rat (male and female) Application Route: Oral Exposure time: 90 d Result: negative Remarks: Based on data from similar materials
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

bifenthrin (ISO):

Genotoxicity in vitro	:	Test Type: gene mutation test Test system: Chinese hamster ovary cells Metabolic activation: with and without metabolic activation Result: negative Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative Test Type: Mouse lymphoma assay Metabolic activation: with and without metabolic activation Result: negative
Genotoxicity in vivo	:	Test Type: Sex-linked Recessive Lethal Test Species: Drosophila melanogaster (vinegar fly) Result: negative Test Type: unscheduled DNA synthesis assay Species: Rat Method: OECD Test Guideline 486 Result: negative

2-ethylhexan-1-ol:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative

Carcinogenicity

Suspected of causing cancer.

Components:

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

Species	:	Mouse
Application Route	:	Dermal
Exposure time	:	104 weeks
Result	:	negative
Remarks	:	Based on data from similar materials

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Species	:	Rat
Application Route	:	Ingestion
Exposure time	:	24 month(s)
NOAEL	:	6.000 ppm
Result	:	positive
Remarks	:	Probably carcinogenic to humans (IARC 2A)

calcium dodecylbenzenesulphonate:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	720 d
NOAEL	:	250 mg/kg body weight
Result	:	negative
Remarks	:	Based on data from similar materials
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

bifenthrin (ISO):

Species	:	Rat, female
Application Route	:	Oral
Exposure time	:	2 Years
NOAEL	:	3 mg/kg bw/day
Result	:	negative
Species	:	Mouse, male
Application Route	:	Oral
Exposure time	:	18 month(s)
NOAEL	:	7,6 mg/kg bw/day
Result	:	positive
Symptoms	:	malignant tumors

2-ethylhexan-1-ol:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	24 month(s)
Result	:	negative

Reproductive toxicity

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

Components:

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

Effects on fertility : Test Type: Fertility
Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 415
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Oral
Method: OECD Test Guideline 414
Result: negative
Remarks: Based on data from similar materials

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
General Toxicity F1: NOAEL: 132 - 152 mg/kg bw/day
Symptoms: Reduced offspring weight gain

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
General Toxicity Maternal: NOAEL: 400 mg/kg bw/day
Teratogenicity: NOAEL: 800 mg/kg bw/day
Result: No teratogenic effects

Test Type: Embryo-foetal development
Species: Rabbit
General Toxicity Maternal: NOAEL: 25 mg/kg bw/day
Teratogenicity: NOAEL: 25 mg/kg bw/day
Result: No teratogenic effects

calcium dodecylbenzenesulphonate:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Rat, male and female
Application Route: Ingestion
General Toxicity - Parent: NOAEL: 400 mg/kg body weight
Method: OECD Test Guideline 422
Result: negative

Effects on foetal development : Test Type: reproductive and developmental toxicity study
Species: Rat
Application Route: Ingestion
General Toxicity Maternal: NOAEL: 300 mg/kg body weight
Developmental Toxicity: NOAEL: 600 mg/kg body weight
Method: OECD Test Guideline 422

Result: negative

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

bifenthrin (ISO):

Effects on fertility : Test Type: Two-generation study
Species: Rat
Application Route: Oral
General Toxicity - Parent: NOAEL: 3 mg/kg bw/day
General Toxicity F1: NOAEL: 5 mg/kg bw/day
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rabbit
Application Route: Oral
General Toxicity Maternal: NOAEL: 2,7 mg/kg bw/day
Teratogenicity: NOAEL: 2,7 mg/kg bw/day
Symptoms: Maternal effects
Result: No teratogenic effects

Test Type: Embryo-foetal development
Species: Rat
Application Route: Oral
General Toxicity Maternal: NOAEL: 1 mg/kg bw/day
Teratogenicity: NOAEL: 2 mg/kg bw/day
Result: No teratogenic effects

Species: Rat
Application Route: Oral
General Toxicity Maternal: LOAEL: 7,2 mg/kg bw/day
Developmental Toxicity: LOAEL: 7,2 mg/kg bw/day
Embryo-foetal toxicity: NOEL: 9,0 mg/kg bw/day
Method: OECD Test Guideline 426
Result: Animal testing did not show any effects on fertility., Some evidence of adverse effects on development, based on animal experiments.

2-ethylhexan-1-ol:

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: Oral
Method: OECD Test Guideline 414
Result: negative

STOT - single exposure

May cause drowsiness or dizziness.

Components:

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

Assessment : May cause drowsiness or dizziness.

2-ethylhexan-1-ol:

Assessment : May cause respiratory irritation.

STOT - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Components:

bifenthrin (ISO):

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

Repeated dose toxicity

Components:

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

Species : Rat, male and female
NOAEL : 750 mg/kg
Application Route : Oral - gavage
Exposure time : 90 day
Remarks : Based on data from similar materials

Species : Rat, male and female
NOAEL : 1 mg/l
LOAEL : 0,5 mg/l
Application Route : inhalation (vapour)
Exposure time : 90 day
Symptoms : Alpha-2u-globulin nephropathy

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Species : Rat
LOAEL : 34,4 mg/kg
Application Route : Oral - feed
Exposure time : 90 d
Target Organs : Nervous system
Symptoms : cholinesterase inhibition

calcium dodecylbenzenesulphonate:

Species : Rat, male and female
NOAEL : 85 mg/kg
LOAEL : 145 mg/kg
Application Route : Oral
Exposure time : 9 Months

Remarks	:	Based on data from similar materials
Species	:	Rat, male
LOAEL	:	286 mg/kg
Application Route	:	Skin contact
Exposure time	:	15 Days
Remarks	:	Based on data from similar materials
Species	:	Rat, male and female
NOAEL	:	100 mg/kg bw/day
LOAEL	:	200 mg/kg bw/day
Application Route	:	Oral - gavage
Exposure time	:	28 - 54 Days
Method	:	OECD Test Guideline 422
Remarks	:	Based on data from similar materials

bifenthrin (ISO):

Species	:	Rat, male and female
NOEL	:	100 ppm
Application Route	:	Oral - feed
Exposure time	:	90 d
Remarks	:	No toxicologically significant effects were found.
Species	:	Dog, male and female
NOEL	:	2,5 mg/kg bw/day
Application Route	:	Oral - feed
Exposure time	:	13 w
Symptoms	:	Tremors

2-ethylhexan-1-ol:

Species	:	Rat
	:	250 mg/kg
Application Route	:	Oral
Exposure time	:	13 Weeks
Method	:	OECD Test Guideline 408

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

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

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

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

bifenthrin (ISO):

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

11.2 Information on other hazards

Endocrine disrupting properties

Product:

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

Neurological effects

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Remarks : Neurotoxity observed in animals studies

bifenthrin (ISO):

Remarks : No neurotoxicity observed in animal studies

Further information

Product:

Remarks : On contact, the first symptoms to appear may be irritation and allergic reactions. Symptoms of cholinesterase inhibition: nausea, headache, vomiting, cramps, weakness, blurred vision, pin-point pupils, tightness in chest, laboured breathing, nervousness, sweating, watering of eyes, drooling or frothing of mouth and nose, muscle spasms and coma.

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.

Remarks : If swallowed or inhaled small doses may produce non-specific symptoms (e.g. nausea, vomiting, diarrhoea). Larger doses may produce disturbance of the central nervous system (e.g. tremors, convulsions, coma).

Remarks : Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Concentrations substantially above the TLV value may cause

narcotic effects.
Solvents may degrease the skin.

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Remarks : The active ingredient malathion is a cholinesterase inhibitor of low mammalian toxicity. However, prolonged storage or storage at too high temperatures may induce formation of the much more toxic and synergistic contaminant isomalathion (LD50, oral, rat, 89 mg/kg). Both malathion and isomalathion rapidly enter the body on contact with all skin surfaces and eyes.
Repeated exposures to cholinesterase inhibitors such as malathion or isomalathion may, without warning, cause increased susceptibility to doses of any cholinesterase inhibitor.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,0234 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,0026 mg/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:

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
Remarks: water accommodated fractions (WAF)

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
Remarks: water accommodated fractions (WAF)

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): > 1 - 3 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Remarks: water accommodated fractions (WAF)

Toxicity to microorganisms : LL50 (Tetrahymena pyriformis): 677,9 mg/l
Exposure time: 72 h
Test Type: Growth inhibition

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,18 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia similis (water flea)): 1,71 µg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : IC50 (Selenastrum capricornutum (green algae)): 4,06 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1.000

Toxicity to fish (Chronic toxicity) : NOEC: 0,021 mg/l
Exposure time: 37 d
Species: Oncorhynchus mykiss (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,00006 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1.000

Toxicity to soil dwelling organisms : 613 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)

Remarks: No significant adverse effect on nitrogen mineralization.
No significant adverse effect on carbon mineralization.

Toxicity to terrestrial organisms : LD50: 359 mg/kg
Exposure time: 5 d
Species: Colinus virginianus (Bobwhite quail)

LC50: 3.497 mg/kg
Exposure time: 5 d
Species: Colinus virginianus (Bobwhite quail)
Remarks: Dietary

LD50: > 2.250 mg/kg
Species: Anas platyrhynchos (Mallard duck)

LD50: 0.38 µg/bee

End point: Acute oral toxicity
Species: Apis mellifera (bees)

Ecotoxicology Assessment

Toxicity Data on Soil : Harmful to the soil environment.

Other organisms relevant to the environment : Harmful to terrestrial vertebrates., Harmful to terrestrial invertebrates.

Tristyrylphenol ethoxylates:

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): 21 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to microorganisms :
Remarks: No data available

calcium dodecylbenzenesulphonate:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 10 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

LC50 (Pimephales promelas (fathead minnow)): 4,6 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,5 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : NOEC (Pseudokirchneriella subcapitata (green algae)): 7,9 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): 65,4 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): 500 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1,65 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

Remarks: Based on data from similar materials

NOEC: 1,18 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Remarks: Based on data from similar materials

Toxicity to soil dwelling organisms : LC50: 1.000 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207

Toxicity to terrestrial organisms : LD50: 1.356 mg/kg
Exposure time: 14 d
Species: Colinus virginianus (Bobwhite quail)
Method: OECD Test Guideline 223

Ecotoxicology Assessment

Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

bifenthrin (ISO):

Toxicity to fish : LC50 (Salmo gairdneri): 0,00015 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Lepomis macrochirus (Bluegill sunfish)): 0,00035 mg/l
Exposure time: 96 h
Test Type: flow-through test

LC50 (Oncorhynchus mykiss (rainbow trout)): 0,000256 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

LC50 (Pimephales promelas (fathead minnow)): 0,000234 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 0,00011 mg/l
Exposure time: 48 h

LC50 (Daphnia (water flea)): 0,0016 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : EC50 (algae): 0,822 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic tox- : 10.000

icity)

Toxicity to fish (Chronic toxicity)	:	NOEC: 0,00012 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,0013 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0,00095 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	:	100.000
Toxicity to soil dwelling organisms	:	LD50: > 16 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 216 Remarks: No significant adverse effect on nitrogen mineralization.
Toxicity to terrestrial organisms	:	LD50: 1.800 mg/kg Species: Colinus virginianus (Bobwhite quail) LD50: > 2.150 mg/kg Species: Anas platyrhynchos (Mallard duck) LD50: 0,1 - 0,35 µg/bee Exposure time: 24 h End point: Acute oral toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 213 LD50: 0,1 - 0,3 µg/bee Exposure time: 24 h End point: Acute contact toxicity Species: Apis mellifera (bees) Method: OECD Test Guideline 214

2-ethylhexan-1-ol:

Toxicity to fish	:	LC50 (Leuciscus idus (Golden orfe)): 17,1 - 28,2 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 39 mg/l Exposure time: 48 h
Toxicity to algae/aquatic	:	EC10 (Desmodesmus subspicatus (green algae)): 3,2 mg/l

plants — Exposure time: 72 h

EC50 (Desmodesmus subspicatus (green algae)): 11,5 mg/l
Exposure time: 72 h

Toxicity to microorganisms : EC50 (Anabaena flos-aquae (cyanobacterium)): 16,6 mg/l
Exposure time: 72 h

12.2 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:

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

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 58,6 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Biodegradability : Result: Not readily biodegradable.

Tristyrylphenol ethoxylates:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 8 %
Exposure time: 28 d
Method: OECD Test Guideline 301

calcium dodecylbenzenesulphonate:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301E

bifenthrin (ISO):

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 2,2 d
Hydrolysis: at 60 °C

Degradation half life (DT50): 15,6 d
Hydrolysis: at 40 °C

2-ethylhexan-1-ol:

Biodegradability : Result: Readily biodegradable.

12.3 Bioaccumulative potential

Components:

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

Partition coefficient: n-octanol/water	:	log Pow: 1,99 - 18,02 Method: QSAR

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 95 Remarks: Bioaccumulation is unlikely.
Partition coefficient: n-octanol/water	:	log Pow: 2,75

Tristyrylphenol ethoxylates:

Partition coefficient: n-octanol/water	:	Remarks: No data available

calcium dodecylbenzenesulphonate:

Bioaccumulation	:	Species: Fish Bioconcentration factor (BCF): 70,79 Method: QSAR
Partition coefficient: n-octanol/water	:	log Pow: 4,77 (25 °C)

bifenthrin (ISO):

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) Bioconcentration factor (BCF): 1.709 Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.
Partition coefficient: n-octanol/water	:	log Pow: 6,6

2-ethylhexan-1-ol:

Partition coefficient: n-octanol/water	:	log Pow: 2,9 (25 °C)

12.4 Mobility in soil

Components:

malathion (ISO) [containing ≤ 0,03 % isomalathion]:

Distribution among environmental compartments	:	Remarks: medium mobility in soil

bifenthrin (ISO):

Distribution among environmental compartments	:	Koc: 236610 ml/g, log Koc: 5,37 Remarks: immobile
Stability in soil	:	

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 Endocrine disrupting properties

Product:

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

12.7 Other adverse effects

Product:

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.

SECTION 14: Transport information

14.1 UN number or ID number

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

14.2 UN proper shipping name

ADN	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Malathion, Bifenthrin)
ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Malathion, Bifenthrin)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Malathion, Bifenthrin)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Malathion, Bifenthrin)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (Malathion, Bifenthrin)

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
Hazard Identification Number	:	90

Labels	:	9
Tunnel restriction code	:	(-)

RID

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

IMDG

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

IATA (Cargo)

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

IATA (Passenger)

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

14.5 Environmental hazards

ADN

Environmentally hazardous	:	yes

ADR

Environmentally hazardous	:	yes

RID

Environmentally hazardous	:	yes

IMDG

Marine pollutant	:	yes

IATA (Passenger)

Environmentally hazardous	:	yes

IATA (Cargo)

Environmentally hazardous	:	yes

14.6 Special precautions for user

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

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)	:	Conditions of restriction for the following entries should be considered: Number on list 75, 3 If you intend to use this product as tattoo ink, please contact your vendor.
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	bifenthrin (ISO) malathion (ISO) [containing ≤ 0,03 % isomalathion]
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable

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

Other regulations:

When evaluating a workplace, measures must be taken to ensure that employees are not ex-

posed to conditions that may pose a risk during pregnancy or breastfeeding (cf. The Danish Working Environment Authority's Executive Order on The Performance of Work)

Young people under the age of 18 are not allowed to use or be exposed to the product professionally. Young people above the age of 15 are, however, except from this rule if the product is a necessary part of their education.

The substance/mixture is subject to the provisions of BEK nr 290 of 19/03/2024 (as amended)"Executive Order on measures to prevent the risks arising from work with carcinogenic, mutagenic or reprotoxic substances and materials" The work with this substance/mixture may pose a risk for cancer and/or reproductive toxicity.	:	Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified Bifenthrin

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. bifenthrin (ISO)
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	On the inventory, or 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

H300	:	Fatal if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.

H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H331	:	Toxic if inhaled.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H351	:	Suspected of causing cancer.
H372	:	Causes damage to organs through prolonged or repeated exposure.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.
H413	:	May cause long lasting harmful effects to aquatic life.
EUH066	:	Repeated exposure may cause skin dryness or cracking.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Carc.	:	Carcinogenicity
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
STOT SE	:	Specific target organ toxicity - single exposure
2017/164/EU	:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values
DK OEL	:	Denmark. Occupational Exposure Limits
2017/164/EU / TWA	:	Limit Value - eight hours
DK OEL / S	:	Exposure period of 15 minutes
DK OEL / GV	:	Long term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test popula-

tion; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Acute Tox. 4	H302	Based on product data or assessment
Skin Irrit. 2	H315	Based on product data or assessment
Eye Irrit. 2	H319	Based on product data or assessment
Carc. 2	H351	Calculation method
STOT SE 3	H336	Calculation method
STOT RE 2	H373	Calculation method
Asp. Tox. 1	H304	Calculation method
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

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