Dimethoate 400 g/l + Gamma-Cyhalothrin 6.4 g/l EC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	25.02.2025	50000659	Date of first issue: 25.02.2025

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

1.1 Product identifier

Product name Dimethoate 400 g/l + Gamma-Cyhalothrin 6.4 g/l EC

Other means of identification

Product code 50000659

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.
For professional users only.

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)

Flammable liquids, Category 3 H226: Flammable liquid and vapour.

Acute toxicity, Category 3	H301: Toxic if swallowed.
Acute toxicity, Category 3	H331: Toxic if inhaled.
Eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Sub-category 1B	H317: May cause an allergic skin reaction.
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 :
H226 Flammable liquid and vapour.
H301 + H331 Toxic if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Disposal:

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

Hazardous components which must be listed on the label:

cyclohexanone
dimethoate (ISO)
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified
GAMMA-CYHALOTHRIN

Additional Labelling

Restricted to professional users.

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)
cyclohexanone	108-94-1 203-631-1 606-010-00-7	Flam. Liq. 3; H226 Acute Tox. 4; H332	>= 30 - < 50

dimethoate (ISO)	60-51-5 200-480-3 015-051-00-4	Self-react. E; H242 Acute Tox. 4; H302 Acute Tox. 4; H332 Acute Tox. 4; H312 Aquatic Chronic 1; H410 --- M-Factor (Acute aquatic toxicity): 1 --- Acute toxicity estimate Acute inhalation toxicity (dust/mist): 1,6 mg/l	>= 30 - < 50
xylene	1330-20-7 215-535-7 601-022-00-9	Flam. Liq. 3; H226 Acute Tox. 4; H332 Acute Tox. 4; H312 Skin Irrit. 2; H315 Aquatic Chronic 3; H412	>= 2,5 - < 10
docusate sodium	577-11-7 209-406-4	Skin Irrit. 2; H315 Eye Dam. 1; H318	>= 3 - < 10
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha - unspecified	64742-95-6 265-199-0 649-356-00-4	Flam. Liq. 3; H226 STOT SE 3; H336 (Central nervous system) STOT SE 3; H335 (Respiratory system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2,5
GAMMA-CYHALOTHRIN	76703-62-3	Acute Tox. 3; H301 Acute Tox. 1; H330 Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Irrit. 2; H319 Skin Sens. 1; H317 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):	>= 0,25 - < 1

		10.000 Acute toxicity estimate Acute oral toxicity: 50,01 mg/kg Acute inhalation toxicity (dust/mist): 0,0282 mg/l Acute dermal toxicity: 1.500 mg/kg	

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.
Consult a physician.
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.
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 : Immediately flush eye(s) with plenty of water.
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 : On contact, the first symptoms to appear may be irritation.
Gamma-cyhalothrin can cause feelings of burning, tingling or numbness in exposed areas (paraesthesia).
In case on poisoning, symptoms will be dominated by those arising from cholinesterase inhibition caused by dimethoate.
See section 11.

Risks : Toxic if swallowed or if inhaled.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : If any sign of poisoning occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to a mixture of an organophosphorus and a pyrethroid insecticide. Describe his/her condition and the extent of exposure.
In an industrial setting, the antidote atropine sulphate should be available at the workplace.
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.
This product is a cholinesterase inhibitor affecting the central and peripheral nervous systems producing respiratory depression.
The product contains petroleum distillates which may pose an aspiration pneumonia hazard.

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.
Much information on (acetyl)cholinesterase inhibition by organophosphate insecticides and its treatment can be found on the internet. Decontamination procedures such as whole body washing, gastric lavage and administration of activated charcoal are often required.
Decontamination procedures such as whole body washing, gastric lavage and administration of activated charcoal are

often required.
ANTIDOTE: If symptoms of cholinesterase inhibition (see subsection 4.2.) 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 the chemical product is fully 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.
Especially in the case of dimethoate, treatment with atropine sulphate is essential. Results of treatment with oxime for dimethoate poisoning are notoriously varying and it may happen that oxime doesn't have any positive effect. In no case should oxime be used instead of atropine sulphate.
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.

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 Nitrogen oxides (NOx) Carbon oxides Sulphur oxides Hydrogen cyanide hydrogen sulphide dimethyl sulphide methyl mercaptan

Hydrogen chloride
Hydrogen fluoride
Chlorine compounds
Fluorine compounds

The product (dimethoate) may decompose rapidly when heated, which can result in explosion.

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.
Remove all sources of ignition.
Evacuate personnel to safe areas.
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Keep people away from and upwind of spill/leak.
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.
For disposal considerations see section 13.

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).

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. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. 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.
Advice on protection against fire and explosion	:	Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. When using do not eat or drink. When using do not smoke. Wash hands before breaks and immediately after handling the product. 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 25°C. The product should never be heated above 35°C and also local heating above this temperature should be avoided. See subsection 10.2. 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.

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
cyclohexanone	108-94-1	STEL	20 ppm 81,6 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		TWA	10 ppm 40,8 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		S	20 ppm 81,6 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Guiding list of organic solvents.			
		GV	10 ppm 41 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Guiding list of organic solvents.			
xylene	1330-20-7	TWA	50 ppm 221 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		STEL	100 ppm 442 mg/m3	2000/39/EC
	Further information: Identifies the possibility of significant uptake through the skin, Indicative			
		S	100 ppm	DK OEL

			442 mg/m3	
	Further information: Means that the substance can be absorbed through the skin., Guiding list of organic solvents.			
		GV	25 ppm 109 mg/m3	DK OEL
	Further information: Means that the substance can be absorbed through the skin., Guiding list of organic solvents.			

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

Substance name	End Use	Exposure routes	Potential health effects	Value
cyclohexanone	Workers	Inhalation	Long-term systemic effects	40 mg/m3
	Workers	Inhalation	Acute systemic effects	80 mg/m3
	Workers	Inhalation	Long-term local effects	40 mg/m3
	Workers	Inhalation	Acute local effects	80 mg/m3
	Workers	Dermal	Long-term systemic effects	4 mg/kg
	Workers	Dermal	Acute systemic effects	4 mg/kg
	Consumers	Inhalation	Long-term systemic effects	10 mg/m3
	Consumers	Inhalation	Acute systemic effects	20 mg/m3
	Consumers	Inhalation	Long-term local effects	20 mg/m3
	Consumers	Inhalation	Acute local effects	40 mg/m3
	Consumers	Dermal	Long-term systemic effects	1 mg/kg
	Consumers	Dermal	Acute systemic effects	1 mg/kg
	Consumers	Oral	Long-term systemic effects	1,5 mg/kg
	Consumers	Oral	Acute systemic effects	1,5 mg/kg
xylene	Workers	Inhalation	Long-term systemic effects	221 mg/m3
	Workers	Inhalation	Acute systemic effects	442 mg/m3
	Workers	Inhalation	Long-term local effects	221 mg/m3
	Workers	Inhalation	Acute local effects	442 mg/m3
	Workers	Dermal	Long-term systemic effects	212 mg/kg
	Consumers	Inhalation	Long-term systemic effects	66,3 mg/m3
	Consumers	Inhalation	Acute systemic effects	260 mg/m3
	Consumers	Inhalation	Long-term local ef-	65,3 mg/m3

			fects	
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Dermal	Long-term systemic effects	125 mg/m3
	Consumers	Dermal	Long-term systemic effects	12,5 mg/kg

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

Substance name	Environmental Compartment	Value
cyclohexanone	Fresh water	0,033 mg/l
	Intermittent use (freshwater)	0,329 mg/l
	Marine water	0,003 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0,249 mg/kg dry weight (d.w.)
	Marine sediment	0,025 mg/kg dry weight (d.w.)
	Soil	0,03 mg/kg dry weight (d.w.)
xylene	Fresh water	0,327 mg/l
	Intermittent use (freshwater)	0,327 mg/l
	Marine water	0,327 mg/l
	Sewage treatment plant	6,58 mg/l
	Fresh water sediment	12,46 mg/kg
	Marine sediment	12,46 mg/kg

8.2 Exposure controls

Personal protective equipment

Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

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.

Ensure that eye flushing systems and safety showers are located close to the working place.
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	:	yellow, transparent
Odour	:	acetone-like
Odour Threshold	:	No data available
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	:	43 °C Method: Pensky-Martens closed cup - PMCC
Auto-ignition temperature	:	ca. 320 °C
Decomposition temperature	:	No data available
pH	:	4 - 5 Concentration: 1 % (as aqueous dispersion)
Viscosity		
Viscosity, dynamic	:	7,78 mPa.s (20 °C)
Viscosity, kinematic	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	1.066 g/l (20 °C)
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	No data available
Particle Size Distribution	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Flammability (liquids)	:	Sustains combustion
Miscibility with water	:	emulsifiable

SECTION 10: Stability and reactivity

10.1 Reactivity

To our knowledge, the product has no special reactivities.

10.2 Chemical stability

The product (dimethoate) may decompose rapidly when heated, which can result in explosion. It is recommended never to heat the product above 35°C. 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.
Heating of the product will produce harmful and irritant vapours.
The product can be ignited by e.g. flame, spark or hot surface.

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).

10.6 Hazardous decomposition products

See subsection 5.2.

SECTION 11: Toxicological information

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

Acute toxicity

Toxic if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 57 mg/kg
Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): 0,5 - 2,1 mg/l

Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
Assessment: The component/mixture is toxic after short term inhalation.

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402

Components:

cyclohexanone:

Acute inhalation toxicity : LC50 (Rat, male and female): > 6,2 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The component/mixture is moderately toxic after short term inhalation.

dimethoate (ISO):

Acute oral toxicity : LD50 (Rat, male and female): 348 - 423 mg/kg
Method: OECD Test Guideline 425
Symptoms: hypoactivity, Tremors

LD50 (Rat, female): 300 - 2.000 mg/kg
Method: OECD Test Guideline 423
Symptoms: hypoactivity, Tremors
GLP: yes
Assessment: The component/mixture is moderately toxic after single ingestion.

LD50 (Mouse, male and female): 160 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): ca. 1,6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

LC50 (Rat): 3 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat, female): > 2.000 mg/kg
Symptoms: Tremors
Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Assessment: The component/mixture is minimally toxic after single contact with skin.
Remarks: no mortality

xylene:

Acute oral toxicity : LD50 (Rat, male): 3.523 mg/kg
Method: Regulation (EC) No. 440/2008, Annex, B.1 bis

LD50 (Rat, female): > 4.000 mg/kg
Method: Regulation (EC) No. 440/2008, Annex, B.1 bis

Acute inhalation toxicity : LC50 (Rat, male and female): 27,6 mg/l, 6350 ppm
Exposure time: 4 h
Test atmosphere: vapour
Method: Regulation (EC) No. 440/2008, Annex, B.2

Acute dermal toxicity : LD50 (Rabbit, male): > 4.200 mg/kg

docusate sodium:

Acute oral toxicity : LD50 (Rat, male and female): > 2.100 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (Rabbit, male): > 10.000 mg/kg
Method: OECD Test Guideline 402

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Acute oral toxicity : LD50 (Rat, female): 3.492 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat, male): 6.984 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): > 6,193 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 3.160 mg/kg
Assessment: The component/mixture is minimally toxic after single contact with skin.

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

Skin corrosion/irritation

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

Product:

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

Components:

dimethoate (ISO):

Species : Rabbit
Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Result : slight or no skin irritation.

xylene:

Species	:	Rabbit
Result	:	Skin irritation
Remarks	:	Based on data from similar materials

docusate sodium:

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Mild skin irritation

GAMMA-CYHALOTHRIN:

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

Serious eye damage/eye irritation

Causes serious eye irritation.

Product:

Method	:	OECD Test Guideline 405
Result	:	Eye irritation

Components:

docusate sodium:

Species	:	Rabbit
Method	:	OECD Test Guideline 405
Result	:	Risk of serious damage to eyes.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species	:	Rabbit
Result	:	No eye irritation

GAMMA-CYHALOTHRIN:

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

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:

Method	:	OECD Test Guideline 429
Result	:	The product is a skin sensitiser, sub-category 1B.

Components:

dimethoate (ISO):

Test Type	:	Maximisation Test
Exposure routes	:	Dermal
Species	:	Guinea pig
Assessment	:	Not a skin sensitizer.
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitisation.
GLP	:	yes

Test Type	:	Local lymph node test
Assessment	:	Not a skin sensitizer.
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

xylene:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitisation.

docusate sodium:

Exposure routes	:	Skin contact
Species	:	Humans
Result	:	Does not cause skin sensitisation.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Not a skin sensitizer.

GAMMA-CYHALOTHRIN:

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

Germ cell mutagenicity

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

Components:

cyclohexanone:

Genotoxicity in vitro	:	Test Type: in vitro DNA damage and/or repair study Test system: human diploid fibroblasts Method: OECD Test Guideline 482 Result: negative Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
Genotoxicity in vivo	:	Test Type: chromosome aberration assay Species: Rat (male and female) Application Route: inhalation (vapour) Method: OECD Test Guideline 475 Result: negative Test Type: dominant lethal test Species: Rat (male and female) Application Route: inhalation (vapour) Method: OECD Test Guideline 478 Result: negative Species: Drosophila melanogaster (vinegar fly) (male and female) Application Route: Inhalation Method: OECD Test Guideline 477 Result: negative
Germ cell mutagenicity- Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

dimethoate (ISO):

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

Genotoxicity in vivo : Test Type: unscheduled DNA synthesis assay
Species: Rat
Cell type: Liver cells
Result: positive

Test Type: dominant lethal test
Species: Mouse
Method: OECD Test Guideline 478
Result: negative
GLP: yes

Test Type: Micronucleus test
Species: Mouse
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Test Type: chromosome aberration assay
Species: Rat
Result: negative

xylene:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster ovary cells
Method: Regulation (EC) No. 440/2008, Annex, B.10
Result: negative

Test Type: sister chromatid exchange assay
Test system: Chinese hamster ovary cells
Result: negative

Genotoxicity in vivo : Test Type: Rodent Dominant Lethal Assay
Species: Mouse (male)
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 478
Result: negative

docusate sodium:

Genotoxicity in vitro : Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Remarks: No data available

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Genotoxicity in vitro : Test Type: in vitro DNA damage and/or repair study
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
Result: negative

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration
Species: Rat (male and female)
Application Route: Inhalation
Result: negative

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

Carcinogenicity

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

Components:

cyclohexanone:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	104 weeks
Dose	:	(462 and 910 mg/kg/d
LOAEL	:	3.300 ppm
Result	:	positive
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

xylene:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	103 weeks
Result	:	negative

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Carcinogenicity - Assessment	:	Limited evidence of carcinogenicity in animal studies

Reproductive toxicity

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

Components:

cyclohexanone:

Effects on fertility	:	Test Type: Two-generation study Species: Rat Application Route: inhalation (vapour) Dose: 1.02, 2.04, 4.1 mg/l General Toxicity - Parent: NOAEC: 4,1 mg/l General Toxicity F1: NOAEC: 2,04 mg/l General Toxicity F2: NOAEC: 2,04 mg/l Result: negative
Effects on foetal development	:	Species: Rabbit Application Route: Oral Dose: 50, 250, 500 mg/kg b.w. General Toxicity Maternal: NOAEL: 250 mg/kg body weight Teratogenicity: NOAEL: 500 mg/kg body weight Method: OECD Test Guideline 414 Result: No teratogenic effects
Reproductive toxicity - Assessment	:	Animal testing did not show any effects on fertility.

dimethoate (ISO):

Effects on fertility	:	Test Type: Two-generation study Species: Rat Dose: 1, 15, 65 parts per million General Toxicity F1: LOAEL: 15 ppm Symptoms: Effects on mating performance GLP: yes Test Type: Two-generation study Species: Rat Dose: 0.2, 1, 6.5 mg/kg bw/day General Toxicity - Parent: NOAEL: 1 mg/kg body weight Early Embryonic Development: NOAEL: 6,5 mg/kg body weight Method: OECD Test Guideline 416 GLP: yes Test Type: one-generation reproductive toxicity Species: Rat Application Route: Oral Dose: 6.5 mg/kg bw/day General Toxicity - Parent: LOAEL: 6,5 mg/kg bw/day Symptoms: Effects on mating performance Method: OECD Test Guideline 415 GLP: yes

xylene:

Effects on fertility	:	Test Type: Two-generation study Species: Rat Application Route: inhalation (vapour) General Toxicity F1: NOAEC: 2,171 mg/l Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Pre-natal Species: Rat Application Route: inhalation (vapour) Symptoms: Maternal effects Result: negative Remarks: Based on data from similar materials

docusate sodium:

Effects on fertility	:	Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Ingestion Method: OECD Test Guideline 416 Result: negative
Effects on foetal development	:	Test Type: reproductive and developmental toxicity study Species: Rat Duration of Single Treatment: 6 - 15 d Method: OECD Test Guideline 414 Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Effects on fertility	:	Test Type: Three-generation study Species: Rat Application Route: inhalation (vapour) Fertility: NOAEC Mating/Fertility: 7,5 mg/l Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Species: Mouse Application Route: inhalation (vapour) General Toxicity Maternal: LOAEC: 500 part per million Symptoms: Maternal effects

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

STOT - single exposure

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

Components:

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Assessment : May cause respiratory irritation., May cause drowsiness or dizziness.

STOT - repeated exposure

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

Components:

cyclohexanone:

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

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

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

GAMMA-CYHALOTHRIN:

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

Repeated dose toxicity

Components:

cyclohexanone:

Species : Rat, male and female
NOAEL : 143 mg/kg
Application Route : Oral
Exposure time : 90 d
Dose : 40, 143 and 407 mg/kg b.w.
Method : OECD Test Guideline 408

dimethoate (ISO):

Species : Rat
LOAEL : 2.5 mg/kg bw/day
Exposure time : 90 days
Symptoms : cholinesterase inhibition

Species : Rat
NOAEL : 0.06 - 0.08 mg/kg bw/day
LOAEL : 3.22 - 3.78 mg/kg bw/day
Exposure time : 90d

Symptoms : cholinesterase inhibition

xylene:

Species : Rat
NOAEC : 3,515 mg/l
Application Route : Inhalation
Exposure time : 13 weeks

docusate sodium:

Species : Rat, male and female
NOAEL : 750 mg/kg
Application Route : Oral
Exposure time : 90 d
Method : OECD Test Guideline 408

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Species : Rat, male and female
NOAEC : 0,8 - 0,9 mg/l
Application Route : Inhalation
Test atmosphere : vapour
Remarks : Based on data from similar materials

Species : Rat, male
NOAEL : 600 mg/kg
Application Route : Oral
Remarks : Based on data from similar materials

GAMMA-CYHALOTHRIN:

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

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

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

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.

Components:

dimethoate (ISO):
The substance does not have properties associated with aspiration hazard potential.

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:
May be fatal if swallowed and enters airways.

GAMMA-CYHALOTHRIN:
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.

Components:

dimethoate (ISO):

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.

Experience with human exposure

Components:

xylene:

General Information	:	Target Organs: inner ear Symptoms: hearing loss Target Organs: Central nervous system Symptoms: Drowsiness, Dizziness

Neurological effects

Components:

dimethoate (ISO):

Remarks : Neurotoxity observed in animals studies

GAMMA-CYHALOTHRIN:

Remarks : Symptoms include tremors, incoordination, hyperactivity and paralysis

Further information

Product:

Remarks : On contact, the first symptoms to appear may be irritation.

Remarks : Solvents may degrease the skin.

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 : 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.

Components:

dimethoate (ISO):

Remarks : Dimethoate is rapidly absorbed and excreted following oral administration. It is extensively metabolised. Dimethoate and its metabolites are primarily found in the liver and kidneys. There is no evidence for accumulation.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0,16 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)): 29 mg/l
Exposure time: 48 h

Remarks: Based on data from similar materials

Toxicity to soil dwelling organisms : NOEC: 149 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organisms : LD50: 0,78 µg/bee
End point: Acute contact toxicity
Species: Apis mellifera (bees)

LD50: 0,53 µg/bee
End point: Acute oral toxicity
Species: Apis mellifera (bees)

LD50: 170 mg/kg
Species: Coturnix japonica (Japanese quail)

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

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

Components:

cyclohexanone:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 527 - 732 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l
Exposure time: 30 min
Method: OECD Test Guideline 209

dimethoate (ISO):

Toxicity to fish	:	NOEC (Cyprinodon variegatus (sheepshead minnow)): 2,4 mg/l Test Type: Early-life Stage GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0,48 - 0,66 mg/l Exposure time: 48 h Test Type: static test NOEC (Daphnia magna (Water flea)): 0,04 mg/l Exposure time: 21 d LC50 (Mysidopsis bahia (opossum shrimp)): 15 mg/l Exposure time: 96 h Test Type: static test Method: US EPA Test Guideline OPP 72-3 GLP: yes EC50 (Daphnia magna (Water flea)): 1,6 - 2,5 mg/l Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202 GLP: yes NOEC (Crassostrea virginica (atlantic oyster)): 46 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	EC50 (Selenastrum capricornutum (green algae)): 117 mg/l End point: Growth inhibition Exposure time: 72 h Method: OECD Test Guideline 201 EC50 (Pseudokirchneriella subcapitata (algae)): > 95 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 EC50 (Navicula pelliculosa (Diatom)): > 98 mg/l Exposure time: 72 h Method: US EPA Test Guideline OPPTS 850.5400 GLP: yes NOEC (Lemna gibba (duckweed)): 41,5 mg/l Exposure time: 7 d Test Type: Static renewal test Method: OECD Test Guideline 221 GLP: yes
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic tox-	:	NOEC: 0,4 mg/l

icity)		Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) NOEC: 2,4 mg/l Species: Cyprinodon variegatus (sheepshead minnow) Test Type: Early-life Stage GLP: yes NOEC: 1,25 mg/l Species: Oncorhynchus mykiss (rainbow trout) Test Type: Early Life-Stage Method: OECD Test Guideline 210 GLP: yes LOEC: 96 mg/l Exposure time: 21 d Species: Pimephales promelas (fathead minnow) Method: OECD Test Guideline 229 GLP: yes
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 0,04 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) NOEC: 0,14 mg/l Exposure time: 32 d Species: Americamysis bahia (mysid shrimp) Test Type: flow-through test GLP: yes
Toxicity to soil dwelling organisms	:	LC50: 31 mg/kg Exposure time: 14 d Species: Eisenia fetida (earthworms) Method: OECD Test Guideline 207 GLP:yes NOEC: 2,87 mg/kg Exposure time: 28 d End point: reproduction Species: Eisenia fetida (earthworms) GLP:yes
Toxicity to terrestrial organisms	:	LD50: 44 mg/kg End point: Acute oral toxicity Species: Anas platyrhynchos (Mallard duck) Method: US EPA Test Guideline OPPTS 850.2100 NOEC: 35,4 ppm End point: Reproduction Test Species: Anas platyrhynchos (Mallard duck) Method: OECD Test Guideline 206 GLP:yes

LD50: 17,3 mg/kg
End point: Acute oral toxicity
Species: Colinus virginianus (Bobwhite quail)
Method: EPA OPP 71-2 (Avian Dietary Toxicity Test)
GLP:yes

NOEC: 10,1 ppm
End point: Reproduction Test
Species: Colinus virginianus (Bobwhite quail)
Method: OECD Test Guideline 206
GLP:yes

LD50: 12 µg/bee
End point: Acute contact toxicity
Species: Apis mellifera (bees)
Method: OECD Test Guideline 214
GLP:yes

LD50: 4 µg/bee
End point: Acute oral toxicity
Species: Apis mellifera (bees)
Method: OECD Test Guideline 213
GLP:yes

Ecotoxicology Assessment

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

xylene:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2,6 mg/l
Exposure time: 96 h
Test Type: Static renewal test
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 2,2 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOEC (Pseudokirchneriella subcapitata (green algae)): 0,44 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : NOEC (activated sludge): 16 mg/l

Exposure time: 28 h
Method: OECD Test Guideline 301F

Toxicity to fish (Chronic toxicity) : NOEC: > 1,3 mg/l
Exposure time: 56 d
Species: Oncorhynchus mykiss (rainbow trout)
Test Type: flow-through test
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,96 mg/l
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)
Remarks: Based on data from similar materials

Toxicity to soil dwelling organisms : NOEC: 16 mg/kg
Exposure time: 14 d
Species: Eisenia fetida (earthworms)
Remarks: Based on data from similar materials

docusate sodium:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 49 mg/l
Exposure time: 96 h
Method: Regulation (EC) No. 440/2008, Annex, C.1

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 15,2 mg/l
Exposure time: 48 h
Method: Regulation (EC) No. 440/2008, Annex, C.2

Toxicity to algae/aquatic plants : EC50 (Desmodesmus subspicatus (green algae)): 82,5 mg/l
Exposure time: 72 h
Method: Regulation (EC) No. 440/2008, Annex, C.3

Toxicity to microorganisms : EC50 (Pseudomonas putida): 164 mg/l
Exposure time: 16,5 h
Method: DIN 38 412 Part 8

EC10 (Pseudomonas putida): 122 mg/l
Exposure time: 16,5 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10: 9 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Toxicity to fish : NOEC (Oncorhynchus mykiss (rainbow trout)): 4,5 mg/l
Exposure time: 96 h
Test Type: semi-static test
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

LL50 (Pimephales promelas (fathead minnow)): 8,2 mg/l
Exposure time: 96 h
Test Type: semi-static test
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 4,5 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (microalgae)): 3,1 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (Tetrahymena pyriformis): 15,41 mg/l
Exposure time: 40 h
Test Type: Growth inhibition
Remarks: The value is given based on a SAR/AAR approach using OECD Toolbox, DEREK, VEGA QSAR models (CAESAR models), etc.

Toxicity to fish (Chronic toxicity) : NOELR: 2,6 mg/l
Exposure time: 14 d
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 204
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: 2,6 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

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

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

(Hyalella azteca (Amphipod)): 0,000086 µg/l
Exposure time: 96 h
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: 0,016 µg/l
End point: mortality
Exposure time: 7 d
Species: Pimephales promelas (fathead minnow)
Test Type: Early Life-Stage
GLP: yes

LOEC: 0,04 µg/l
End point: mortality
Exposure time: 7 d
Species: Pimephales promelas (fathead minnow)
Test Type: Early Life-Stage
GLP: yes

NOEC: 0,0379 µg/l
End point: Hatching success
Exposure time: 35 d
Species: Pimephales promelas (fathead minnow)
Test Type: flow-through test
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0,0019 µg/l
End point: reproduction
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test Type: flow-through test
Method: OECD Test Guideline 211

M-Factor (Chronic aquatic toxicity) : 10.000

Toxicity to soil dwelling organisms : LC50: >
1300 mg/kg dry weight (d.w.)
Exposure time: 14 d
Species: Eisenia fetida (earthworms)

Toxicity to terrestrial organ- : LD50: > 2.000 mg/kg

isms

Species: Colinus virginianus (Bobwhite quail)

LD50: 0,005 µg/bee
Exposure time: 24 h
End point: Acute contact toxicity
Species: Apis mellifera (bees)

LD50: 4,2 µg/bee
Exposure time: 24 h
End point: Acute oral toxicity
Species: Apis mellifera (bees)

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:

cyclohexanone:

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

dimethoate (ISO):

Biodegradability : Result: Not readily biodegradable.

xylene:

Biodegradability : Test Type: aerobic
Inoculum: activated sludge, non-adapted
Concentration: 16 mg/l
Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Test Type: aerobic
Inoculum: activated sludge, non-adapted
Concentration: 16 mg/l
Result: Readily biodegradable.
Biodegradation: 94 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Test Type: aerobic
Inoculum: activated sludge, non-adapted

Concentration: 16,2 mg/l
Result: Readily biodegradable.
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

docusate sodium:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 28 d

Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified:

Biodegradability : Concentration: 49,2 mg/l
Result: Inherently biodegradable.
Biodegradation: 77,05 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

GAMMA-CYHALOTHRIN:

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

12.3 Bioaccumulative potential

Components:

cyclohexanone:

Partition coefficient: n-octanol/water : log Pow: 0,86 (25 °C)

dimethoate (ISO):

Bioaccumulation : Species: Salmo gairdneri
Bioconcentration factor (BCF): > 1.000
Remarks: The product/substance has a potential to bioaccumulate.
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : Pow: 5,7 (20 °C)
log Pow: 0,75 (20 °C)
Method: OECD Test Guideline 107

xylene:

Bioaccumulation : Species: Oncorhynchus mykiss (rainbow trout)
Exposure time: 7 d
Concentration: 1,3 mg/l
Bioconcentration factor (BCF): > 4,9

Remarks: Based on data from similar materials

Partition coefficient: n-octanol/water : log Pow: 3,2 (20 °C)
pH: 7
Remarks: Based on data from similar materials

log Pow: 3,12 (20 °C)
pH: 7
Remarks: Based on data from similar materials

log Pow: 3,15 (20 °C)
pH: 7
Remarks: Based on data from similar materials

log Pow: 3,15 (20 °C)
pH: 7
Remarks: Based on data from similar materials

docusate sodium:

Bioaccumulation : Remarks: Not applicable

Partition coefficient: n-octanol/water : log Pow: 1,998 (20 °C)

GAMMA-CYHALOTHRIN:

Bioaccumulation : Remarks: Can accumulate in aquatic organisms.

Partition coefficient: n-octanol/water : log Pow: 5,2 (25 °C)

12.4 Mobility in soil

Components:

dimethoate (ISO):

Distribution among environmental compartments : Remarks: Highly mobile in soils

Stability in soil : Remarks: Not expected to adsorb on soil.

GAMMA-CYHALOTHRIN:

Distribution among environmental compartments : Remarks: immobile

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or

very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

dimethoate (ISO):

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.

GAMMA-CYHALOTHRIN:

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.

Components:

dimethoate (ISO):

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.

Components:

dimethoate (ISO):

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.

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.

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 2903
ADR	:	UN 2903
RID	:	UN 2903
IMDG	:	UN 2903
IATA	:	UN 2903

14.2 UN proper shipping name

ADN	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
ADR	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
RID	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
IMDG	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
IATA	:	Pesticide, liquid, toxic, flammable, n.o.s.

(Dimethoate, Gamma-cyhalothrin, Cyclohexanone)

14.3 Transport hazard class(es)

		Class	Subsidiary risks
ADN	:	6.1	3
ADR	:	6.1	3
RID	:	6.1	3
IMDG	:	6.1	3
IATA	:	6.1	3

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)

ADR

Packing group	:	III
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)
Tunnel restriction code	:	(D/E)

RID

Packing group	:	III
Classification Code	:	TF2
Hazard Identification Number	:	63
Labels	:	6.1 (3)

IMDG

Packing group	:	III
Labels	:	6.1 (3)
EmS Code	:	F-E, S-D

IATA (Cargo)

Packing instruction (cargo aircraft)	:	663
Packing instruction (LQ)	:	Y642
Packing group	:	III
Labels	:	Toxic, Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	655
Packing instruction (LQ)	:	Y642
Packing group	:	III
Labels	:	Toxic, Flammable Liquids

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 cyclohexanone (Number on list 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 (EC) 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	:	dimethoate (ISO) cyclohexanone

REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable	
		P5c	
Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.		H2	ACUTE TOXIC
		E1	ENVIRONMENTAL HAZARDS
		P5c	FLAMMABLE LIQUIDS

Other regulations:

When evaluating a workplace, measures must be taken to ensure that employees are not exposed 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 no 822 of 16/06/2023 (as amended) “Executive order on Measures to Protect Workers from the Risks related to Exposure to Carcinogenic Substances and Materials at Work”. The work with this substance/mixture may pose a cancer risk.	:	Solvent naphtha (petroleum), heavy arom.; Kerosine — unspecified

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

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. alkoxylated short fatty alcohol GAMMA-CYHALOTHRIN dimethoate (ISO)

ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

15.2 Chemical safety assessment

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

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H242	:	Heating may cause a fire.
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.
H332	:	Harmful if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
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.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Self-react.	:	Self-reactive substances and mixtures

Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
DK OEL	:	Denmark. Occupational Exposure Limits
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
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 population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Flam. Liq. 3	H226	Based on product data or assessment
Acute Tox. 3	H301	Based on product data or assessment
Acute Tox. 3	H331	Based on product data or assessment

Eye Irrit. 2	H319	Based on product data or assessment
Skin Sens. 1B	H317	Based on product data or assessment
Asp. Tox. 1	H304	Based on product data or assessment
Aquatic Acute 1	H400	Based on product data or assessment
Aquatic Chronic 1	H410	Based on product data or assessment

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