SAFETY DATA SHEET

DANADIM® POWER EC (ДАНАДИМ® ПАУЕР, КЭ)

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

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

Product name : DANADIM® POWER EC (ДАНАДИМ® ПАУЕР, КЭ)

Manufacturer or supplier's details

Company : FMC Agro Kazakhstan LLP

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

Telephone : 1 215 / 299-6000 (Corporate of

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

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

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

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : Use as recommended by the label.

2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 3

Acute toxicity (Inhalation) : Category 3

Acute toxicity (Dermal) : Category 5

Eye irritation : Category 2A

Skin sensitization : Category 1

Carcinogenicity : Category 2

Specific target organ toxicity - repeated exposure : Category 1 (Nervous system)

Aspiration hazard : Category 1

Short-term (acute) aquatic : Category 1

hazard

Long-term (chronic) aquatic hazard : Category 1

GHS-Labeling

Hazard pictograms :

Signal Word : DANGER

Hazard Statements : H226 Flammable liquid and vapor.
H301 + H331 Toxic if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H313 May be harmful in contact with skin.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H372 Causes damage to organs (Nervous system) through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements :

Prevention:

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P260 Do not breathe mist or vapors.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Rinse mouth.
P331 Do NOT induce vomiting.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.

Storage:

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

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Components

Chemical name	CAS-No.	Classification	MAC value mg/m3 / TSEL value	Concentration (% w/w)
cyclohexanone	108-94-1	Flam. Liq.3; H226 Acute Tox.4; H302 Acute Tox.4; H332 Skin Irrit.2; H315 Eye Dam.1; H318	MPC-TWA: 10 mg/m3 Class 3 - Moderately dangerous Data Source: KZ OEL MPC-STEL: 30 mg/m3 Class 3 - Moderately dangerous Data Source: KZ OEL MPC-TWA: 10 mg/m3 Class 3 - Moderately dangerous Data Source: RU OEL MPC-STEL: 30 mg/m3 Class 3 - Moderately dangerous Data Source: RU OEL	>= 30 - < 50
dimethoate (ISO)	60-51-5	Self-react.E; H242 Acute Tox.4; H302 Acute Tox.4; H332 Acute Tox.5; H313 Eye Irrit.2A; H319 STOT RE1; H372 (Nervous system) Aquatic Acute1; H400 Aquatic Chronic1; H410	MPC-STEL: 0,5 mg/m3 Data Source: KZ OEL	>= 30 - < 50
xylene	1330-20-7	Flam. Liq.3; H226	MPC-STEL: 50 mg/m3	>= 2,5 - < 10

		Acute Tox.5; H303 Acute Tox.5; H333 Acute Tox.5; H313 Skin Irrit.2; H315 Eye Irrit.2A; H319 STOT SE3; H335 (Respiratory system) STOT RE2; H373 (hearing organs) Asp. Tox.1; H304 Aquatic Acute2; H401 Aquatic Chronic3; H412	Class 3 - Moderately dangerous Data Source: KZ OEL MPC-TWA: 50 mg/m3 Class 3 - Moderately dangerous Data Source: RU OEL MPC-STEL: 150 mg/m3 Class 3 - Moderately dangerous Data Source: RU OEL	
docusate sodium	577-11-7	Skin Irrit.2; H315 Eye Dam.1; H318 Aquatic Acute3; H402	No data available	>= 3 - < 10
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified	64742-95-6	Flam. Liq.3; H226 Acute Tox.5; H303 Acute Tox.5; H313 Skin Irrit.3; H316 Carc.2; H351 STOT SE3; H335, H336 (Respiratory system, Central nervous system) Asp. Tox.1; H304 Aquatic Acute2; H401 Aquatic Chronic2; H411	No data available	>= 1 - < 2,5
GAMMA-CYHALOTHRIN	76703-62-3	Acute Tox.3;	No data available	>= 0,25 - < 1

		H301 Acute Tox.1; H330 Acute Tox.4; H312 Skin Irrit.2; H315 Eye Irrit.2A; H319 Skin Sens.1; H317 STOT RE1; H372 (Nervous system) Aquatic Acute1; H400 Aquatic Chronic1; H410		

For explanation of abbreviations see section 16.

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this material safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.
Do not leave the victim unattended.

If inhaled : Remove to fresh air.
If unconscious, place in recovery position and seek medical advice.
If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
If breathing has stopped, apply artificial respiration.

In case of skin contact : If on clothes, remove clothes.
If on skin, rinse well with water.
Wash off with soap and plenty of water.
Get medical attention immediately if irritation develops and persists.

In case of eye contact : 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.
Most important symptoms and effects, both acute and delayed	:	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. Toxic if swallowed or if inhaled. May be fatal if swallowed and enters airways. May be harmful in contact with skin. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure.
Protection of first-aiders	:	Avoid inhalation, ingestion and contact with skin and eyes.
Notes to physician	:	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.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point	:	43 °C Method: Pensky-Martens closed cup - PMCC
Ignition temperature	:	ca. 320 °C
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flammability (liquids)	:	Sustains combustion
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
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products	:	Fire may produce irritating, corrosive and/or toxic gases. phosphorus oxides Nitrogen oxides (NOx) Carbon oxides Sulfur 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.
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.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors 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.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	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).

7. HANDLING AND STORAGE

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 vapors). Keep away from open flames, hot surfaces and sources of ignition.
Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapors/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 sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
Conditions for safe storage	:	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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
cyclohexanone	108-94-1	MPC-TWA (vapour and/or gas)	10 mg/m3	RU OEL
		Further information: Class 3 - Moderately dangerous		
		MPC-STEL (vapour and/or gas)	30 mg/m3	RU OEL
		Further information: Class 3 - Moderately dangerous		
		STEL	20 ppm 81,6 mg/m3	2000/39/EC
		TWA	10 ppm 40,8 mg/m3	2000/39/EC
		MPC-TWA (vapour and/or gas)	10 mg/m3	KZ OEL
		Further information: Class 3 - Moderately dangerous		
		MPC-STEL (vapour and/or gas)	30 mg/m3	KZ OEL
		Further information: Class 3 - Moderately dangerous		
dimethoate (ISO)	60-51-5	MPC-STEL (mixture of vapour and aerosol)	0,5 mg/m3	KZ OEL
xylene	1330-20-7	MPC-TWA (vapour and/or gas)	50 mg/m3	RU OEL
		Further information: Class 3 - Moderately dangerous		
		MPC-STEL (vapour and/or gas)	150 mg/m3	RU OEL
		Further information: Class 3 - Moderately dangerous		
		TWA	50 ppm 221 mg/m3	2000/39/EC
		STEL	100 ppm 442 mg/m3	2000/39/EC
		MPC-STEL (vapour and/or gas)	50 mg/m3	KZ OEL

		Further information: Class 3 - Moderately dangerous

Personal protective equipment

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

Hand protection

Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

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

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

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
Wear suitable protective equipment.
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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : liquid

Color : yellow, transparent

Odor : acetone-like

Odor Threshold	:	No data available
pH	:	4 - 5 Concentration: 1 % (as aqueous dispersion)
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	43 °C Method: Pensky-Martens closed cup - PMCC
Flammability (liquids)	:	Sustains combustion
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	1.066 g/l (20 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	ca. 320 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	7,78 mPa.s (20 °C)
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	Non-oxidizing

Particle size	:	No data available

10. STABILITY AND REACTIVITY

Reactivity	:	To our knowledge, the product has no special reactivities.
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.
Possibility of hazardous reactions	:	None known Vapors may form explosive mixture with air.
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.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers. The product can corrode metals (but does not meet the criteria for classification).

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Toxic if swallowed or if inhaled.
May be harmful in contact with skin.

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 oral toxicity : LD50 (Rat): 1.890 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 6,2 mg/l
Exposure time: 4 h
Test atmosphere: vapor
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: vapor
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: vapor
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:

cyclohexanone:

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

dimethoate (ISO):

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

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:

Result	:	Eye irritation
Method	:	OECD Test Guideline 405

Components:

cyclohexanone:

Result	:	Irreversible effects on the eye
Method	:	Hen egg chorioallantoic membrane bioassay

dimethoate (ISO):

Species	:	Rabbit
Result	:	Mild eye irritation
Assessment	:	Mild eye irritation
Method	:	EPA OPP 81-4

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

xylene:

Species	:	Rabbit
Result	:	Moderate eye irritation

docusate sodium:

Species	:	Rabbit

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

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

Species : Rabbit
Result : No eye irritation

GAMMA-CYHALOTHRIN:

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

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Product:

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

Components:

dimethoate (ISO):

Test Type : Maximization Test
Routes of exposure : Dermal
Species : Guinea pig
Assessment : Not a skin sensitizer.
Method : OECD Test Guideline 406
Result : Does not cause skin sensitization.
GLP : yes

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

xylene:

Test Type : Local lymph node assay (LLNA)
Routes of exposure : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : Does not cause skin sensitization.

docusate sodium:

Routes of exposure : Skin contact

Species : Humans
Result : Does not cause skin sensitization.

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

Test Type : Maximization Test
Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : Not a skin sensitizer.

GAMMA-CYHALOTHRIN:

Routes of exposure : Skin contact
Species : Guinea pig
Method : OECD Test Guideline 406
Result : May cause sensitization 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 (vapor)
Method: OECD Test Guideline 475
Result: negative

Test Type: dominant lethal test
Species: Rat (male and female)
Application Route: inhalation (vapor)
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

Suspected of causing cancer.

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 (vapor)
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 fetal 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 (vapor)
General Toxicity F1: NOAEC: 2,171 mg/l
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Test Type: Pre-natal
Species: Rat
Application Route: inhalation (vapor)
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 fetal 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 off-spring 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 (vapor)
Fertility: NOAEC Mating/Fertility: 7,5 mg/l
Result: negative
Remarks: Based on data from similar materials

Effects on fetal development : Species: Mouse
Application Route: inhalation (vapor)
General Toxicity Maternal: LOAEC: 500 part per million
Symptoms: Maternal effects.

GAMMA-CYHALOTHRIN:

Effects on fetal development : Species: Rat
Dose: 1, 2.5, 5, 10 or 15 mg/kg bw/day

Embryo-fetal toxicity.: NOEL: 2,5 mg/kg bw/day

STOT-single exposure

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

Components:

xylene:

Assessment : May cause respiratory irritation.

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

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

STOT-repeated exposure

Causes damage to organs (Nervous system) through prolonged or repeated exposure.

Components:

cyclohexanone:

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

dimethoate (ISO):

Target Organs : Nervous system
Assessment : Causes damage to organs through prolonged or repeated exposure.

xylene:

Routes of exposure : Inhalation
Target Organs : hearing organs
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

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	:	vapor
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.

xylene:

May be fatal if swallowed and enters airways.

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.

Experience with human exposure

Components:

xylene:

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

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 metabolized. Dimethoate and its metabolites are primarily found in the liver and kidneys. There is no evidence for accumulation.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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 (Eisenia fetida (earthworms)): 149 mg/kg
Exposure time: 14 d

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

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

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

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 toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): 0,4 mg/l
Exposure time: 21 d

NOEC (Cyprinodon variegatus (sheepshead minnow)): 2,4 mg/l
Test Type: Early-life Stage
GLP: yes

NOEC (Oncorhynchus mykiss (rainbow trout)): 1,25 mg/l
Test Type: Early Life-Stage
Method: OECD Test Guideline 210
GLP: yes

LOEC (Pimephales promelas (fathead minnow)): 96 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 229
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0,04 mg/l
Exposure time: 21 d

NOEC (Americamysis bahia (mysid shrimp)): 0,14 mg/l
Exposure time: 32 d
Test Type: flow-through test
GLP: yes

M-Factor (Chronic aquatic : 1

toxicity)

Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): 31 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 GLP: yes NOEC (Eisenia fetida (earthworms)): 2,87 mg/kg Exposure time: 28 d End point: reproduction GLP: yes
Toxicity to terrestrial organisms	:	LD50 (Anas platyrhynchos (Mallard duck)): 44 mg/kg End point: Acute oral toxicity Method: US EPA Test Guideline OPPTS 850.2100 NOEC (Anas platyrhynchos (Mallard duck)): 35,4 ppm End point: Reproduction Test Method: OECD Test Guideline 206 GLP: yes LD50 (Colinus virginianus (Bobwhite quail)): 17,3 mg/kg End point: Acute oral toxicity Method: EPA OPP 71-2 (Avian Dietary Toxicity Test) GLP: yes NOEC (Colinus virginianus (Bobwhite quail)): 10,1 ppm End point: Reproduction Test Method: OECD Test Guideline 206 GLP: yes LD50 (Apis mellifera (bees)): 12 µg/bee End point: Acute contact toxicity Method: OECD Test Guideline 214 GLP: yes LD50 (Apis mellifera (bees)): 4 µg/bee End point: Acute oral toxicity Method: OECD Test Guideline 213 GLP: yes

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

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia dubia (water flea)): 0,96 mg/l
Exposure time: 7 d
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 soil dwelling organisms : NOEC (Eisenia fetida (earthworms)): 16 mg/kg
Exposure time: 14 d
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 daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): 9 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211

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

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

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

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.

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

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

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

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

M-Factor (Chronic aquatic toxicity) : 10.000

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

Toxicity to terrestrial organisms : LD50 (Colinus virginianus (Bobwhite quail)): > 2.000 mg/kg

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

LD50 (Apis mellifera (bees)): 4,2 µg/bee

Exposure time: 24 h
End point: Acute oral toxicity

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 : 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

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

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

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)
Bioconcentration factor (BCF): > 4,9
Exposure time: 7 d
Concentration: 1,3 mg/l
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: 4,96 (19 °C)
Method: OECD Test Guideline 107

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

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

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.

Hygienic standards:

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

Components	Air	Water	Soil	Data Source
cyclohexanone 108-94-1	MPC - maximum: 0,04 mg/m3 Limiting health hazard indicator: reflectory Hazard class: Class 3 - moderately dangerous	MPC: 0,0005 Milligrams per cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3 MAC: 0,2 mg/l Limiting health hazard indicator: sanitary-toxicological Hazard class: Class 2 - highly dangerous	No data available	List 1 List 4 List 5
dimethoate (ISO) 60-51-5	MPC - maximum: 0,003 mg/m3 Limiting health hazard indicator: reflectory Hazard class: Class 2 - highly dangerous	MPC: 0,001 Milligrams per cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3	No data available	List 1 List 5
xylene 1330-20-7	MPC - maximum: 0,2 mg/m3 Limiting health hazard indicator: reflectory Hazard class: Class 3 - moderately dangerous MPC - average chronic: 0,1 mg/m3 Limiting health hazard indicator: reflectory Hazard class: Class 3 - moderately dan-	MAC: 0,05 mg/l Limiting health hazard indicator: organoleptic; changes the smell of water Hazard class: Class 3 - moderately dangerous	MPC: 0,3 mg/kg Limiting health hazard indicator: Translocation	List 1 List 4 List 7

	gerous			
docusate sodium 577-11-7	No data available	MPC: 0,6 Milligrams per cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3	No data available	List 5
Solvent naphtha (petroleum), light arom.; Low boiling point naphtha -unspecified 64742-95-6	TSEL: 0,2 mg/m3	MPC: 0,05 Milligrams per cubed decimeter Limiting health hazard indicator: toxic Hazard class: 3	No data available	List 2 List 5

For explanation of abbreviations see section 16.

13. DISPOSAL CONSIDERATIONS

Disposal methods

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

Contaminated packaging : Empty remaining contents.
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.

14. TRANSPORT INFORMATION

ADR

UN number	:	UN 2903
Proper shipping name	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
Class	:	6.1
Subsidiary risk	:	3
Packing group	:	III
Labels	:	6.1 (3)
Hazard Identification Number	:	63
Tunnel restriction code	:	(D/E)
Environmentally hazardous	:	yes

UNRTDG

UN number	:	UN 2903
Proper shipping name	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
Class	:	6.1
Subsidiary risk	:	3
Packing group	:	III
Labels	:	6.1 (3)

IATA-DGR

UN/ID No.	:	UN 2903
Proper shipping name	:	Pesticide, liquid, toxic, flammable, n.o.s. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
Class	:	6.1
Subsidiary risk	:	3
Packing group	:	III
Labels	:	Toxic, Flammable Liquids
Packing instruction (cargo aircraft)	:	663
Packing instruction (passenger aircraft)	:	655
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 2903
Proper shipping name	:	PESTICIDE, LIQUID, TOXIC, FLAMMABLE, N.O.S. (Dimethoate, Gamma-cyhalothrin, Cyclohexanone)
Class	:	6.1
Subsidiary risk	:	3
Packing group	:	III
Labels	:	6.1 (3)
EmS Code	:	F-E, S-D
Marine pollutant	:	yes

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

Not applicable for product as supplied.

Special precautions for user

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

15. REGULATORY INFORMATION

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

The ingredients 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

16. OTHER INFORMATION

Full text of H-Statements

H226	Flammable liquid and vapor.
H242	Heating may cause a fire.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H303	May be harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H313	May be harmful in contact with skin.
H315	Causes skin irritation.
H316	Causes mild 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.
H333	May be 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.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful 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
Carc.	:	Carcinogenicity
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 sensitization
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
KZ OEL	:	Kazakhstan. Order of the Ministry of Health No. KP DCM-70, Annex 2, Table 1 and Annex 3, Table 1 & 7 Maximum permissible concentration (MPC) of harmful substances in the air of the working area
RU OEL	:	SanPiN 1.2.3685-21 Table 2.1 Maximum permissible concentrations (MPC) of pollutants in the air of the working area
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
KZ OEL / MPC-STEL	:	Maximum Permissible Concentration - Short Term Exposure
KZ OEL / MPC-TWA	:	Maximum Permissible Concentration - Time Weighted Average
RU OEL / MPC-STEL	:	Maximum Permissible Concentration - Short Term Exposure
RU OEL / MPC-TWA	:	Maximum Permissible Concentration - Time Weighted Average
List 1	:	SanPiN 1.2.3685-21 Table 1.1 Maximum permissible concentration (MPC) of pollutants in the air of urban and rural settlements
List 2	:	SanPiN 1.2.3685-21 Table 1.2 Tentative Safe Exposure Levels (TSEL) of pollutants in the air of urban and rural settlements
List 4	:	SanPiN 1.2.3685-21 Table 3.13 Maximum permissible concentrations (MPC) of chemicals in the water of drinking systems of centralized, including hot, and non-centralized water supply, water of underground and surface water bodies of domestic drinking and cultural and domestic water use, water of swimming pools, water parks
List 5	:	Order of the Russian Federal Fisheries Agency "Standards of maximum permissible concentrations of harmful substances in fishery water bodies"
List 7	:	SanPiN 1.2.3685-21 Table 4.1 Maximum allowable concentration (MPC) and approximate allowable concentration (APC) of chemicals in the soil

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

Other information :

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