DIMETHOATE 400 g/L EC (BLUE, STABILIZED)

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

1.1 Product identifier

Product name DIMETHOATE 400 g/L EC (BLUE, STABILIZED)

Other means of identification

Product code 50001279

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

Use of the Substance/Mixture : Can be used as insecticide only.

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 4	H302: Harmful if swallowed.

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin sensitisation, Category 1B	H317: May cause an allergic skin reaction.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
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 : Warning

Hazard statements :
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
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.
P261 Avoid breathing mist or vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/goggles/face shield.

Response:

P301 + P330 IF SWALLOWED: Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P310 Immediately call a POISON CENTER or doctor/ physician.

Disposal:

P501 Dispose of the contents/container in accordance with municipal waste management regulations.

Hazardous components which must be listed on the label:

cyclohexanone
dimethoate (ISO)

xylene
maleic anhydride

Additional Labelling

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

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)
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	39
cyclohexanone	108-94-1 203-631-1 606-010-00-7	Flam. Liq. 3; H226 Acute Tox. 4; H332	>= 30 - < 50
xylene	1330-20-7 215-535-7	Flam. Liq. 3; H226 Acute Tox. 4; H332	>= 10 - < 20

	601-022-00-9	Acute Tox. 4; H312 Skin Irrit. 2; H315 Aquatic Chronic 3; H412	
maleic anhydride	108-31-6 203-571-6 607-096-00-9 01-2119472428-31-0132	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1A; H317 STOT RE 1; H372 (Respiratory system) EUH071 specific concentration limit Skin Sens. 1A; H317 >= 0,001 % Acute toxicity estimate Acute oral toxicity: 1.090 mg/kg	>= 0,1 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

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

Protection of first-aiders : Avoid inhalation, ingestion and contact with skin and eyes.
First Aid responders should pay attention to self-protection and use the recommended protective clothing
If potential for exposure exists refer to Section 8 for specific personal protective equipment.
A specific antidote against this substance is not known. Gastric lavage and/or administration of activated charcoal can be considered.

If inhaled : If unconscious, place in recovery position and seek medical advice.
If breathing has stopped, apply artificial respiration.
If symptoms persist, call a physician.
If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious

cases: Get medical attention immediately or call for an ambulance.

In case of skin contact : If on clothes, remove clothes.
Wash off with soap and water.
If symptoms persist, call a physician.
Wash contaminated clothing before re-use.

In case of eye contact : Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
Induce vomiting only if:
1. a significant amount (more than a mouthful) has been ingested
2. patient is fully conscious
3. medical aid is not readily available
4. time since ingestion is less than one hour.

4.2 Most important symptoms and effects, both acute and delayed

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

Swallowing or inhaling may result in sudden shortness of breath, coughing, nausea and or abdominal pain.
Exposure to skin may result in mild symptoms include itching, hives or rash, and skin redness. More severe symptoms include sneezing, itchy watery eyes, and difficulty breathing.

Risks : Harmful if swallowed.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Harmful if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : If any of the signs of cholinesterase inhibition occurs, call a doctor (physician), clinic or hospital immediately. Explain that the victim has been exposed to an organophosphorus insecticide.
Describe his/her condition and the extent of exposure. Imme-

diately remove the exposed person from the area where the product is present.

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.
Treat symptomatically.

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. Hydrogen cyanide Oxides of phosphorus Nitrogen oxides (NOx)

Carbon oxides
Sulphur oxides

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Use a water spray to cool fully closed containers.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Immediately evacuate personnel to safe areas. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. Do not touch or walk through the spilled material. If it can be safely done, stop the leak. Use personal protective equipment. 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 further leakage or spillage if safe to do so. Prevent product from entering drains. 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	:	Never return spills in original containers for re-use. Collect as much of the spill as possible with a suitable absorbent material. Pick up and transfer to properly labelled containers. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Local/Total ventilation	:	Ensure adequate ventilation.
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	:	Normal measures for preventive fire protection. If the temperature of the liquid is below 29°C, which is 10°C below its flash point of 39°C, the fire and explosion hazard is considered minor. At higher temperatures the hazard gradually becomes more serious. 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. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. No sparking tools should be used.
Hygiene measures	:	Avoid contact with skin, eyes and clothing. Provide adequate ventilation. Do not inhale aerosol. When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers	:	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.
Recommended storage tem-	:	< 25 °C

perature

Further information on storage stability : Risk of crystallisation or phase separation.

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 442 mg/m3	DK OEL
	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.			
maleic anhydride	108-31-6	GV	0,1 ppm	DK OEL

			0,4 mg/m3	
		S	0,2 ppm 0,8 mg/m3	DK OEL

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 effects	65,3 mg/m3
	Consumers	Inhalation	Acute local effects	260 mg/m3
	Consumers	Dermal	Long-term systemic effects	125 mg/m3
	Consumers	Dermal	Long-term systemic	12,5 mg/kg

			effects	
maleic anhydride	Workers	Inhalation	Long-term systemic effects	0,190 mg/m3
	Workers	Inhalation	Acute systemic effects	0,800 mg/m3
	Workers	Inhalation	Long-term local effects	0,320 mg/m3
	Workers	Dermal	Long-term systemic effects	0,200 mg/kg bw/day
	Workers	Dermal	Acute systemic effects	0,200 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	0,050 mg/m3
	Consumers	Inhalation	Long-term local effects	0,080 mg/m3
	Consumers	Dermal	Long-term systemic effects	0,100 mg/kg bw/day
	Consumers	Dermal	Acute systemic effects	0,100 mg/kg bw/day
	Consumers	Oral	Long-term systemic effects	0,060 mg/kg bw/day
	Consumers	Oral	Acute systemic effects	0,100 mg/kg bw/day

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
maleic anhydride	Fresh water	0,075 - 0,100 mg/l
	Marine water	0,0075 - 0,010 mg/l
	Intermittent use (freshwater)	0,4281 - 0,750 mg/l
	Sewage treatment plant	4,46 - 44,6 mg/l
	Fresh water sediment	0,060 - 0,334 mg/kg
	Marine sediment	0,006 - 0,0334

		mg/kg
	Soil	0,010 - 0,0415 mg/kg
	Oral	6,67 mg/kg

8.2 Exposure controls

Personal protective equipment

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

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

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

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

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

Protective measures : Plan first aid action before beginning work with this product.
Always have on hand a first-aid kit, together with proper instructions.
The precautions mentioned relate mainly to the handling of the undiluted product and the preparation of the spray solution, but may also be recommended for spraying.

In the context of professional phytosanitary use as recommended, the end user must refer to the indications on the label. In other cases, it is recommended to use the protections above.
Persons working with this product for a longer period should have frequent blood tests of their cholinesterase levels. If the cholinesterase level falls below a critical point, no further exposure should be allowed until it has been determined by means of blood tests that the cholinesterase level has returned to normal
Remove respiratory and skin/eye protection only after vapours have been cleared from the area.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Form : liquid
Colour : blue
Odour : Faint, acetone-like, mercaptanic-like

Odour Threshold	:	not determined
Melting point/freezing point	:	< 5 °C Crystallisation may start from 2°C downward.
Boiling point/boiling range	:	not determined
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	39 °C
Auto-ignition temperature	:	No data available
Decomposition temperature	:	see subsection 10.2
pH	:	3,12 In a 1% aqueous dispersion 2,5 Concentration: 5 % (as aqueous dispersion)
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	5,2 mm2/s (22 °C)
Solubility(ies)		
Water solubility	:	emulsifiable
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	No data available
Density	:	1,056 g/cm3 (20 °C)
Bulk density	:	No data available
Relative vapour density	:	No data available
Particle characteristics		
Particle size	:	No data available
Particle Size Distribution	:	No data available
Shape	:	No data available

9.2 Other information

Explosives	:	Not explosive
Oxidizing properties	:	Non-oxidizing
Flammability (liquids)	:	Flammable
Self-ignition	:	No data available
Evaporation rate	:	No data available
Molecular weight	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

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 : Vapours may form explosive mixture with air.No decomposition if stored and applied as directed.

10.4 Conditions to avoid

Conditions to avoid : Avoid extreme temperatures
Avoid formation of aerosol.
Heat, flames and sparks.
Temperatures greater than recommended storage temperature.
Heating of the mixture may evolve harmful and irritant vapours.

10.5 Incompatible materials

Materials to avoid : Strong alkalis, amines and strong oxidising compounds. The product can corrode metals (but does not meet the criteria for classification).
The product can corrode metals (but does not meet the criteria for classification).

10.6 Hazardous decomposition products

Stable under recommended storage conditions.

SECTION 11: Toxicological information

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

Acute toxicity

Harmful if swallowed.
Harmful if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): ca. 300 - 500 mg/kg
Method: OECD Test Guideline 423
Symptoms: lethargy, ataxia, Tremors
GLP: yes
Assessment: The component/mixture is moderately toxic after single ingestion.

Acute inhalation toxicity : LC50 (Rat): > 2,1 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Symptoms: incoordination
Remarks: no mortality

LC50 (Rat): > 3,0 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: FIFRA 81.03

Acute dermal toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 402
Symptoms: incoordination
GLP: yes
Remarks: no mortality

Components:

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

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.

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

maleic anhydride:

Acute oral toxicity : LD50 (Rat, male and female): 1.090 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit, female): 2.620 mg/kg

Skin corrosion/irritation

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

Product:

Species : Rabbit
Assessment : Not classified as irritant
Method : OECD Test Guideline 404
Result : Moderate skin irritation
GLP : yes
Remarks : Based on data from a similar product.

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

maleic anhydride:

Species : Rabbit
Exposure time : 4 h
Result : Corrosive after 3 minutes to 1 hour of exposure

Serious eye damage/eye irritation

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

Product:

Species : Rabbit
Assessment : Not classified as irritant
Method : OECD Test Guideline 405
Result : Moderate eye irritation
GLP : yes
Remarks : Vapours are highly irritant to the eyes and upper respiratory system.
Based on data from a similar product.

Components:

maleic anhydride:

Species : Rabbit
Result : Irreversible effects on the eye

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:

Test Type : Buehler Test
Exposure routes : Skin contact
Species : Guinea pig
Assessment : May cause sensitisation by skin contact.
Method : OECD Test Guideline 406
Result : Causes sensitisation.
GLP : yes
Remarks : Causes sensitisation.
Based on data from a similar product.

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.

maleic anhydride:

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Dermal
Species	:	Mouse
Assessment	:	The product is a skin sensitiser, sub-category 1A.
Method	:	OECD Test Guideline 429

Germ cell mutagenicity

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

Components:

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

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.

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

maleic anhydride:

Genotoxicity in vitro : 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
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Bone marrow chromosome aberration
Species: Rat (male and female)
Application Route: Inhalation
Method: OECD Test Guideline 475
Result: negative

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

Carcinogenicity

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

Components:

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

maleic anhydride:

Species : Rat, male and female
Application Route : Oral
Exposure time : 2 Years

Dose	:	0, 10, 32, 100 mg/kg body weight
NOEL	:	10 mg/kg body weight
Method	:	OECD Test Guideline 451
Result	:	negative
Carcinogenicity - Assessment	:	Weight of evidence does not support classification as a carcinogen

Reproductive toxicity

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

Components:

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

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.

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

maleic anhydride:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 0, 20, 55, and 150 milligram per kilogram
General Toxicity - Parent: LOAEL: 20 mg/kg body weight
Fertility: NOEL: 55 mg/kg body weight
Method: OECD Test Guideline 416
Result: negative

Effects on foetal development : Species: Rat
Application Route: Oral
Duration of Single Treatment: 15 d
General Toxicity Maternal: NOAEL: >= 140 mg/kg body weight
Teratogenicity: NOAEL: >= 140 mg/kg body weight
Embryo-foetal toxicity: NOAEL: >= 140 mg/kg body weight
Method: OECD Test Guideline 414
Result: negative

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

STOT - single exposure

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

STOT - repeated exposure

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.

maleic anhydride:

Exposure routes : inhalation (dust/mist/fume)
Target Organs : Respiratory system
Assessment : The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Repeated dose toxicity

Components:

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

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

xylene:

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

maleic anhydride:

Species : Dog, male and female
NOAEL : 60 mg/kg
Application Route : Oral
Exposure time : 90 d
Dose : 0, 20, 40, or 60 mg/kg bw/day
Method : OECD Test Guideline 409

Species	:	Rat, male and female
NOEL	:	10 mg/kg
Application Route	:	Oral
Exposure time	:	2 years
Dose	:	0, 10, 32, and 100 mg/kg bw/day
Method	:	OECD Test Guideline 452

Species	:	Rat, male and female
LOAEC	:	0,0011 mg/l
Application Route	:	Inhalation
Exposure time	:	6 months
Target Organs	:	Respiratory system

Aspiration toxicity

May be fatal if swallowed and enters airways.

Components:

dimethoate (ISO):

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

11.2 Information on other hazards

Endocrine disrupting properties

Product:

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

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

Further information

Product:

Remarks : Solvents may degrease the skin.

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

Components:

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: 0,4 mg/l
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.

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

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

maleic anhydride:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 42,81 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC10 (Pseudokirchneriella subcapitata (green algae)): 11,8 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC50 (Pseudokirchneriella subcapitata (green algae)): 74,35 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC10 (Pseudomonas putida): 44,6 mg/l
Exposure time: 18 h
Method: DIN 38 412 Part 8

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 10 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: Dimethoate is biodegradable. It undergoes degradation in the environment and in waste water treatment plants. No adverse effects are found at concentrations up to 100 mg/l in waste water treatment plants. Degradation occurs both aerobically and anaerobically, biologically as well as abiologi-

cally.
Primary degradation half-lives for dimethoate vary with circumstances, but are usually around 2 to 4 days in aerobic soil and water. pH value has a major influence. Degradation will increase at higher pH. Degradation products are not considered as harmful to soil dwelling or aquatic organisms and are mineralised relatively rapidly.

Components:

dimethoate (ISO):

Biodegradability : Result: Not readily biodegradable.

cyclohexanone:

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

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

maleic anhydride:

Biodegradability : Inoculum: activated sludge, non-adapted
Result: Readily biodegradable.
Biodegradation: > 90 %
Exposure time: 25 d

Method: OECD Test Guideline 301B
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: Bioaccumulation is not expected.

Components:

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

cyclohexanone:

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

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

maleic anhydride:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.

Partition coefficient: n-octanol/water	:	log Pow: -2,61

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.

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.

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.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dimethoate is rapidly hydrolysed at pH > 8.0
According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not possible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.

Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.
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.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.
It is recommended to consider possible ways of disposal in the following order:
1. Reuse or recycling should first be considered. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems.
2. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.
3. Delivery of the packaging to a licensed service for disposal of hazardous waste.
4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill, containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

SECTION 14: Transport information

14.1 UN number or ID number

ADN	:	UN 1993
ADR	:	UN 1993
RID	:	UN 1993
IMDG	:	UN 1993
IATA	:	UN 1993

14.2 UN proper shipping name

ADN	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
ADR	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
RID	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
IMDG	:	FLAMMABLE LIQUID, N.O.S. (Cyclohexanone, Xylene, Dimethoate)
IATA	:	Flammable liquid, n.o.s. (Cyclohexanone, Xylene, Dimethoate)

14.3 Transport hazard class(es)

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

14.4 Packing group

ADN

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

ADR

Packing group	:	III
Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3
Tunnel restriction code	:	(D/E)

RID

Packing group	:	III

Classification Code	:	F1
Hazard Identification Number	:	30
Labels	:	3

IMDG

Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E

IATA (Cargo)

Packing instruction (cargo aircraft)	:	366
Packing instruction (LQ)	:	Y344
Packing group	:	III
Labels	:	Flammable Liquids

IATA (Passenger)

Packing instruction (passenger aircraft)	:	355
Packing instruction (LQ)	:	Y344
Packing group	:	III
Labels	:	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 (EU) No 2024/590 on substances that deplete the ozone layer	:	Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (recast)	:	Not applicable
Regulation (EU) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	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.	P5c	FLAMMABLE LIQUIDS
	E1	ENVIRONMENTAL HAZARDS

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 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 chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.
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	:	On the inventory, or 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.
H302	:	Harmful if swallowed.
H312	:	Harmful in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H332	:	Harmful if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H372	:	Causes damage to organs through prolonged or repeated exposure if inhaled.
H410	:	Very toxic to aquatic life with long lasting effects.
H412	:	Harmful to aquatic life with long lasting effects.
EUH071	:	Corrosive to the respiratory tract.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Long-term (chronic) aquatic hazard

Eye Dam.	:	Serious eye damage
Flam. Liq.	:	Flammable liquids
Resp. Sens.	:	Respiratory sensitisation
Self-react.	:	Self-reactive substances and mixtures
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT RE	:	Specific target organ toxicity - repeated 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. 4	H302	Based on product data or assessment
Acute Tox. 4	H332	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 Chronic 1	H410	Calculation method

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