MEFISTO SHOCK

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2.0	03.12.2024	215000009788	Country / Language: GB / 6N (EN)

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

1.1 Product identifier

Trade name : MEFISTO SHOCK

Product code : 000000000062648082

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

Use of the Sub-stance/Mixture : Insecticide

Recommended restrictions on use : Professional use

1.3 Details of the supplier of the safety data sheet

Company : Antec International Limited
Windham Road
CO10 2XD Sudbury / Suffolk
Chilton Industrial Estate, Great Britain

Responsible Department : +49 221 8885 2288
infosds@lanxess.com

1.4 Emergency telephone number

Emergency telephone number : For 24/7 multilingual emergency please call CHEMTREC EMEA: +44 20 3885 0382 and mention CCN1018725.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Corrosive to metals, Category 1	H290: May be corrosive to metals.
Acute toxicity, Category 4	H302: Harmful if swallowed.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.
Respiratory sensitisation, Category 1	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.

Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements : EUH071 Corrosive to the respiratory tract.

Precautionary statements :

Prevention:
P261 Avoid breathing mist or vapours.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
P284 Wear respiratory protection.

Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.
P391 Collect spillage.

Hazardous components which must be listed on the label:

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides
glutaral
deltamethrin (ISO)
(R)-p-mentha-1,8-diene

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.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides	68424-85-1 270-325-2	Acute Tox. 4; H302 Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 1	>= 30 - < 50
glutaral	111-30-8 203-856-5 605-022-00-X	Acute Tox. 3; H301 Acute Tox. 2; H330 Skin Corr. 1B; H314 Eye Dam. 1; H318 Resp. Sens. 1; H334 Skin Sens. 1A; H317 STOT SE 3; H335 (Respiratory system) Aquatic Acute 1; H400 Aquatic Chronic 2; H411 EUH071	>= 10 - < 20

		_____ M-Factor (Acute aquatic toxicity): 1	
hydrocarbons	Not Assigned 918-811-1	STOT SE 3; H336 (Central nervous system) Asp. Tox. 1; H304 Aquatic Chronic 2; H411 EUH066	>= 10 - < 20
deltamethrin (ISO)	52918-63-5 258-256-6 607-319-00-X	Acute Tox. 3; H301 Acute Tox. 3; H331 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1,000,000 M-Factor (Chronic aquatic toxicity): 1,000,000	>= 0.25 - < 1
(R)-p-mentha-1,8-diene	5989-27-5 227-813-5 601-096-00-2	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Skin Sens. 1B; H317 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 _____ M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	>= 0.1 - < 0.25

Specific Concentration limits (Regulation EC) No 1272/2008)

Chemical name	CAS-No. EC-No.	Classification	Concentration (%)
glutaral	111-30-8 203-856-5	STOT SE3; H335	0.5 - < 5 %

For explanation of abbreviations see section 16.
Disclaimer: EC numbers starting with 6, 7, 8, or 9 in this document are ECHA List Numbers used for internal reference and do not carry legal significance as typical EC Numbers in Safety Data Sheets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

If inhaled : Call a physician or poison control centre immediately.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : Wash off with soap and plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.

In case of eye contact : Immediately flush eye(s) with plenty of water.
Continue rinsing eyes during transport to hospital.
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.
Take victim immediately to hospital.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Causes severe burns.
Corrosive to the respiratory tract.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media	:	High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting	:	Do not allow run-off from fire fighting to enter drains or water courses. Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon dioxide (CO2) Carbon monoxide hydrogen chloride

5.3 Advice for firefighters

Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation.

6.2 Environmental precautions

Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

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

6.4 Reference to other sections

For personal protection see section 8., For disposal considerations see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Do not smoke. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations. Smoking, eating and drinking should be prohibited in the application area. 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.
Hygiene measures	:	General industrial hygiene practice. 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	:	Keep container tightly closed in a dry and well-ventilated place. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Further information on storage stability	:	Stable under recommended storage conditions.

7.3 Specific end use(s)

Specific use(s)	:	No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
glutaral	111-30-8	TWA	0.05 ppm 0.2 mg/m3	GB EH40
	Further information: Capable of causing occupational asthma.			

		STEL	0.05 ppm 0.2 mg/m3	GB EH40
	Further information: Capable of causing occupational asthma.			

8.2 Exposure controls

Engineering measures

If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protective equipment

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

Hand protection
Material : Polychloroprene - CR
Directive : Protective gloves complying with EN 374.
Wearing time : < 60 min

Material : Nitrile rubber - NBR
Directive : Protective gloves complying with EN 374.
Wearing time : < 60 min

Material : Polyvinyl chloride - PVC
Directive : Protective gloves complying with EN 374.
Wearing time : < 60 min

Remarks : After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations
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 insufficient ventilation, wear suitable respiratory equipment.

Filter type : Combined particulates and organic vapour type (A-P)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Emulsion

Physical state	:	liquid
Colour	:	orange
Odour	:	citrus
Odour Threshold	:	No data available
Melting point/ range	:	No data available
Freezing point		-15 °C
Boiling point/boiling range	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Flash point	:	> 150 °C Method: Regulation (EC) No. 440/2008, Annex, A.9
Decomposition temperature	:	No data available
pH	:	4.4 Concentration: 1 %
Viscosity		
Viscosity, dynamic	:	32.9 mPa·s (20 °C) Method: OECD Test Guideline 114 15.5 mPa·s (40 °C) Method: OECD Test Guideline 114
Viscosity, kinematic	:	35.2 mm2/s (20 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Vapour pressure	:	No data available
Relative density	:	0.992 (20 °C) Method: OECD Test Guideline 109

Density	:	0.992 g/cm3 (20 °C) Method: OECD Test Guideline 109

9.2 Other information

Explosives	:	Not explosive Method: EC Method A.14 GLP: Yes
Oxidizing properties	:	The substance or mixture is not classified as oxidizing. Method: Regulation (EC) No. 440/2008, Annex, A.21 GLP: Yes
Flammable solids Burning number	:	No data available
Self-ignition	:	387 °C Method: Regulation (EC) No. 440/2008, Annex, A.15 GLP: Yes
Metal corrosion rate	:	Corrosive to metals
Evaporation rate	:	No data available
Surface tension	:	29.4 mN/m, 20.1 °C, OECD Test Guideline 115, GLP: Yes

SECTION 10: Stability and reactivity

10.1 Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid	:	Strong acids and strong bases Strong oxidizing agents Ammonia Amines Copper Iron Zinc

Aluminium

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : LD50 (Rat, female): > 300 - 2,000 mg/kg
Method: OECD Test Guideline 423
GLP: Yes
Remarks: Expert judgement

Acute inhalation toxicity : LC50 (Rat, male and female): > 5.02 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 436
GLP: Yes

Components:

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Acute oral toxicity : LD50 (Rat): 398 mg/kg

Acute dermal toxicity : LD50 (Rat): 3,412 mg/kg

glutaral:

Acute oral toxicity : LD50 (Rat, male and female): 100 mg/kg
Method: OECD Test Guideline 401
GLP: Yes
Remarks: Active ingredient

Acute inhalation toxicity : LC50 (Rat, female): 0.28 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No

LC50 (Rat, male): 0.35 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: No

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Method: OECD Test Guideline 402

GLP: Yes
Assessment: The substance or mixture has no acute dermal toxicity

hydrocarbons:

Acute oral toxicity : LD50 (Rat, male and female): 7,050 mg/kg
Method: OECD Test Guideline 420
GLP: Yes

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.688 mg/l
Exposure time: 4 Months
Test atmosphere: vapour
Method: OECD Test Guideline 403
GLP: Yes
Remarks: Highest producible concentration.
Dosage caused no mortality

Acute dermal toxicity : LD50 (Rabbit, male and female): > 5,000 mg/kg
Method: OECD Test Guideline 402
GLP: Yes
Remarks: Extrapolation according to Regulation (EC) No. 440/2008

(R)-p-mentha-1,8-diene:

Acute oral toxicity : LD50 (Rat): 4,400 mg/kg

Skin corrosion/irritation

Causes severe burns.

Product:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Corrosive after 3 minutes to 1 hour of exposure
GLP : Yes

Components:

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Result : Corrosive after 3 minutes to 1 hour of exposure

glutaral:

Species : Rabbit
Exposure time : 4 h
Method : OECD Test Guideline 404
Result : Causes burns.
GLP : No information available.

hydrocarbons:

Result : Repeated exposure may cause skin dryness or cracking.
Remarks : No skin irritation

(R)-p-mentha-1,8-diene:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

glutaral:

Species	:	Rabbit
Method	:	Draize Test
Result	:	Irreversible effects on the eye
GLP	:	No

hydrocarbons:

Remarks	:	No eye irritation

(R)-p-mentha-1,8-diene:

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

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Components:

glutaral:

Exposure routes	:	Inhalation
Species	:	Human
Result	:	May cause sensitisation by inhalation.

Test Type	:	Open epicutaneous test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Result	:	May cause sensitisation by skin contact.

Test Type	:	Local lymph node assay (LLNA)
Exposure routes	:	Skin contact
Species	:	Mouse
Result	:	The product is a skin sensitiser, sub-category 1A.

hydrocarbons:

Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Did not cause sensitisation on laboratory animals.

(R)-p-mentha-1,8-diene:

Exposure routes	:	Dermal
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

glutaral:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: positive
GLP: Yes

Test Type: Chromosome aberration test in vitro
Test system: Chinese hamster fibroblasts
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive
GLP: Yes

Test Type: In vitro mammalian cell gene mutation test
Test system: Chinese hamster ovary cells
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive
GLP: Yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Species: Mouse (male and female)
Cell type: Bone marrow
Application Route: Intraperitoneal injection
Method: OECD Test Guideline 474
Result: negative
GLP: Yes

Test Type: unscheduled DNA synthesis assay
Species: Rat (male)
Cell type: Liver cells
Application Route: Oral
Method: OECD Test Guideline 486
Result: negative
GLP: Yes

Test Type: The sex-linked recessive lethal (SLRL) test.
Species: Drosophila melanogaster (vinegar fly) (male)
Result: negative

hydrocarbons:

Genotoxicity in vitro : Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 479
Result: negative
GLP: Yes

Test system: Bacteria
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: Yes

Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative
GLP: Yes

Test system: Mammalian-Animal
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: negative
GLP: Yes

Genotoxicity in vivo : Species: Mammalian-Animal
Application Route: Inhalation
Method: OECD Test Guideline 475
Result: negative
GLP: Yes

Species: Mammalian-Animal
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: Yes

Carcinogenicity

Not classified due to lack of data.

Components:

glutaral:

Species	:	Rat, male and female
Application Route	:	Oral
Exposure time	:	2 Years
Dose	:	100 - 500 - 2000 parts per million
NOAEL	:	100 ppm

Method : OECD Test Guideline 451
Result : negative
GLP : Yes

Reproductive toxicity

Not classified due to lack of data.

Components:

glutaral:

Effects on fertility : Test Type: Two-generation study
Species: Rat, male and female
Application Route: Oral
Dose: 100 - 500 - 2000 parts per million
General Toxicity - Parent: NOAEL: 500 parts per million
Fertility: NOAEL: 2,000 parts per million
Early Embryonic Development: NOAEL: 500 ppm
Method: OECD Test Guideline 416
Result: Animal testing did not show any effects on fertility.
GLP: Yes

Effects on foetal development : Test Type: Pre-natal
Species: Rat, female
Application Route: Oral
Dose: 50 - 250 - 750 parts per million
General Toxicity Maternal: NOEL: 50 ppm
Teratogenicity: NOAEL: 750 ppm
Embryo-foetal toxicity: NOAEL: 750 ppm
Method: OECD Test Guideline 414
Result: Did not show teratogenic effects in animal experiments.
GLP: Yes

Test Type: Pre-natal
Species: Rabbit, female
Application Route: Oral
Dose: 5 - 15 - 45 milligram per kilogram
General Toxicity Maternal: NOAEL: 15 mg/kg body weight
Teratogenicity: NOAEL: 45 mg/kg body weight
Embryo-foetal toxicity: NOAEL: 15 mg/kg body weight
Method: OECD Test Guideline 414
Result: Embryotoxic effects and adverse effects on the offspring were detected only at high maternally toxic doses
GLP: Yes

hydrocarbons:

Effects on fertility : Species: Rat, male and female
Application Route: Inhalation
Dose: >= 1500 parts per million
Duration of Single Treatment: 17 weeks
Frequency of Treatment: 5 days/week
Symptoms: No observed adverse effect concentration
Method: OECD Test Guideline 416

Result: No effects on fertility and early embryonic development were detected.

Species: Rat, female
Application Route: Oral
Dose: 150 milligram per kilogram
Duration of Single Treatment: 21 d
Symptoms: NOAEL, Maternal toxicity
Method: OECD Test Guideline 414

Species: Rat, female
Application Route: Oral
Dose: > 450 milligram per kilogram
Duration of Single Treatment: 21 d
Symptoms: NOAEL, Developmental Toxicity
Method: OECD Test Guideline 414

STOT - single exposure

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

Product:

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

Components:

glutaral:

Assessment	:	May cause respiratory irritation.

hydrocarbons:

Target Organs	:	Narcotic effects
Assessment	:	May cause drowsiness or dizziness.

STOT - repeated exposure

Not classified due to lack of data.

Repeated dose toxicity

Components:

glutaral:

Species	:	Rat, male and female
NOAEL	:	500 parts per million
LOAEL	:	2000 ppm
Application Route	:	Oral
Exposure time	:	90 Days
Number of exposures	:	daily
Dose	:	100 - 500 - 2000 parts per million
Method	:	OECD Test Guideline 408
GLP	:	Yes
Remarks	:	Subchronic toxicity

Species	:	Rat, male and female
NOAEL	:	500 parts per million
LOAEL	:	2000 ppm
Application Route	:	Oral
Exposure time	:	12 Months
Number of exposures	:	daily
Dose	:	100 - 500 - 2000 parts per million
Method	:	OECD Test Guideline 452
GLP	:	Yes
Remarks	:	Chronic toxicity

Species	:	Dog, male and female
NOAEL	:	500 parts per million
Application Route	:	Oral
Exposure time	:	12 Months
Number of exposures	:	daily
Dose	:	20 - 100 - 500 parts per million
Method	:	OECD Test Guideline 452
GLP	:	Yes
Remarks	:	Chronic toxicity

Species	:	Rat, male and female
NOAEC	:	>= 1 ppm
Application Route	:	Inhalation
Test atmosphere	:	vapour
Exposure time	:	90 Days
Number of exposures	:	6 hours a day, 5 days a week
Dose	:	0,062 - 0,125 - 0,25 - 0,5 - 1 parts per million
Method	:	OECD Test Guideline 413
GLP	:	Yes
Remarks	:	Subchronic toxicity

hydrocarbons:

Species	:	Rat, male and female
NOAEL	:	300 mg/kg
Application Route	:	Oral
Exposure time	:	13 weeks
Number of exposures	:	7 days/week
Dose	:	300 mg/kg
Method	:	OECD Test Guideline 408
GLP	:	Yes
Remarks	:	Subchronic toxicity

Species	:	Rat, male and female
Application Route	:	Inhalation
Test atmosphere	:	vapour
Exposure time	:	13 weeks
Number of exposures	:	5 days/week
Dose	:	> 0,38 mg/l
Method	:	OECD Test Guideline 413
Remarks	:	Subchronic toxicity

Aspiration toxicity

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

Product:

No aspiration toxicity classification

Components:

hydrocarbons:

May be fatal if swallowed and enters airways.

Further information

Product:

Remarks : No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Toxicity to fish	:	LC50 : 0.515 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 : 0.016 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	NOEC (Pseudokirchneriella subcapitata (microalgae)): 0.009 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
M-Factor (Acute aquatic toxicity)	:	10
M-Factor (Chronic aquatic toxicity)	:	1

glutaral:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 10 mg/l Exposure time: 96 h Test Type: static test Analytical monitoring: No Method: OECD Test Guideline 203 GLP: No Remarks: Fresh water nominal concentration LC50 (Lepomis macrochirus (Bluegill sunfish)): 13 mg/l

Exposure time: 96 h
Test Type: static test
Analytical monitoring: No
Method: OECD Test Guideline 203
GLP: No
Remarks: Fresh water
nominal concentration

LC50 (Cyprinodon variegatus (sheepshead minnow)): 39 mg/l
Exposure time: 96 h
Test Type: static test
Analytical monitoring: No
GLP: No
Remarks: salt water
nominal concentration

LC50 (Cyprinodon variegatus (sheepshead minnow)): 32 mg/l
Exposure time: 96 h
Test Type: flow-through test
Analytical monitoring: Yes
Method: OPPTS 850.1075
GLP: Yes
Remarks: salt water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 14.87 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: No
Method: Regulation (EC) No. 440/2008, Annex, C.2
GLP: No
Remarks: Fresh water
nominal concentration

EC50 (Daphnia magna (Water flea)): 14 mg/l
End point: Immobilization
Exposure time: 48 h
Test Type: static test
Analytical monitoring: No
Method: EPA-660/3-75-009
GLP: No
Remarks: Fresh water
nominal concentration

EC50 (Acartia tonsa): 3 mg/l
Exposure time: 48 h
Test Type: static test
Analytical monitoring: Yes
Method: ISO 14669 and PARCOM method
GLP: Yes
Remarks: salt water
nominal concentration

Toxicity to algae/aquatic : ErC50 (Desmodesmus subspicatus (green algae)): 0.6 mg/l

plants		End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: Yes Method: Regulation (EC) No. 440/2008, Annex, C.3 GLP: Yes Remarks: Fresh water nominal concentration NOEC (Desmodesmus subspicatus (green algae)): 0.025 mg/l End point: Growth rate Exposure time: 72 h Test Type: static test Analytical monitoring: Yes Method: Regulation (EC) No. 440/2008, Annex, C.3 GLP: Yes Remarks: Fresh water nominal concentration
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to microorganisms	:	EC20 (activated sludge): 15 mg/l End point: Respiration inhibition Exposure time: 30 min Test Type: static test Analytical monitoring: No Method: OECD Test Guideline 209 GLP: Yes EC50 (activated sludge): 80 mg/l End point: Respiration inhibition Exposure time: 30 min Test Type: static test Analytical monitoring: No Method: OECD Test Guideline 209 GLP: Yes
Toxicity to fish (Chronic toxicity)	:	NOEC: 1.6 mg/l End point: Survival test Exposure time: 97 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test Analytical monitoring: Yes Method: OECD Test Guideline 210 GLP: Yes Remarks: Fresh water nominal concentration
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 5 mg/l End point: Reproduction Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: semi-static test

Analytical monitoring: Yes
Method: OECD Test Guideline 221
GLP: Yes
Remarks: Fresh water
nominal concentration

Toxicity to soil dwelling organisms : LC50: 170 mg/kg
Exposure time: 14 d
End point: Survival
Species: Eisenia fetida (earthworms)
Method: OECD Test Guideline 207
GLP:Yes

Plant toxicity : EC50: > 1,000 mg/kg
End point: Growth inhibition
Test period: 19 d
Species: Avena sativa (oats)
Method: OECD Test Guideline 208
GLP:Yes

EC50: > 1,000 mg/kg
End point: Growth inhibition
Test period: 19 d
Species: Vicia sativa
Method: OECD Test Guideline 208
GLP:Yes

Toxicity to terrestrial organisms : LD50: 206 mg/kg
Exposure time: 14 d
End point: mortality
Species: Anas platyrhynchos (Mallard duck)

LC50: > 2,500 ppm
Exposure time: 5 d
End point: mortality
Species: Anas platyrhynchos (Mallard duck)

hydrocarbons:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 2 - 5 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
GLP: Yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 3 - 10 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: Yes
Remarks: Fresh water

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (microalgae)): 1 - 3 mg/l
Exposure time: 48 h

Method: OECD Test Guideline 201
GLP: Yes
Remarks: Fresh water

NOEC (Pseudokirchneriella subcapitata (microalgae)): 1 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 201
GLP: Yes
Remarks: Fresh water

Toxicity to fish (Chronic toxicity) : NOEC: 0.441 mg/l
Exposure time: 28 Days
Species: Oncorhynchus mykiss (rainbow trout)
Method: QSAR
GLP: Yes
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.771 mg/l
Exposure time: 21 Days
Species: Daphnia magna (Water flea)
Method: QSAR
GLP: Yes
Remarks: Fresh water

deltamethrin (ISO):

M-Factor (Acute aquatic toxicity) : 1,000,000

M-Factor (Chronic aquatic toxicity) : 1,000,000

(R)-p-mentha-1,8-diene:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 0.72 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.307 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Fresh water

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.32 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Fresh water

EC10 (Pseudokirchneriella subcapitata (green algae)): 0.174 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Remarks: Fresh water

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC: 0.059 mg/l
Exposure time: 8 d
Species: Pimephales promelas (fathead minnow)
Method: OECD Test Guideline 212
Remarks: Fresh water

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.08 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Fresh water

12.2 Persistence and degradability

Product:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 21 %
Exposure time: 28 d
Method: OECD Test Guideline 301D
GLP: Yes

Result: Inherently biodegradable.
Biodegradation: 81.2 %
Exposure time: 28 d
Method: OECD Test Guideline 302B
GLP: Yes

Components:

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Biodegradability : Result: Readily biodegradable.
Biodegradation: > 70 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

glutaral:

Biodegradability : Result: rapidly biodegradable
Biodegradation: 90 - 100 %
Exposure time: 28 d
Method: OECD Test Guideline 301A
GLP: Yes

Result: Biodegradable in sea water
Biodegradation: 90 - 100 %
Exposure time: 70 d
Method: OECD Test Guideline 306
GLP: Yes

Concentration: 20 mg/l
Result: Biodegradable
Biodegradation: 97 %
Related to: Dissolved organic carbon (DOC)
Exposure time: 73 d
Lag phase: 1 d
Beginning of plateau phase: 2 d
Method: OECD Test Guideline 303A
GLP: Yes

Stability in water : Remarks: Hydrolyses slowly.

Photodegradation : Sensitiser: OH radicals
Concentration: 500,000 1/cm3
Rate constant: 4.69E-10 cm3/s
Remarks: Structure-activity relationship (SAR)

hydrocarbons:

Biodegradability : Result: Inherently biodegradable.
Biodegradation: 50 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

(R)-p-mentha-1,8-diene:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 80 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

12.3 Bioaccumulative potential

Components:

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides:

Partition coefficient: n-octanol/water : log Pow: 0.5

glutaral:

Bioaccumulation : Remarks: Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

Partition coefficient: n-octanol/water : log Pow: -0.36 (23 °C)
pH: 7
Method: Regulation (EC) No. 440/2008, Annex, A.8
GLP: Yes

(R)-p-mentha-1,8-diene:

Partition coefficient: n-octanol/water : log Pow: 4.38
Method: OECD Test Guideline 117

12.4 Mobility in soil

Components:

glutaral:

Distribution among environmental compartments	:	log Koc: 2.5
Stability in soil	:	Test Type: aerobic degradation Soil temperature: 25 °C Radio label: Yes Method: measured GLP: Yes 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.

12.6 Other adverse effects

Product:

Endocrine disrupting potential	:	This substance/mixture does not contain components considered to have endocrine disrupting properties for environment according to UK REACH Article 57(f).
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	:	Do not contaminate ponds, waterways or ditches with chemical or used container. The product should not be allowed to enter drains, water courses or the soil. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14: Transport information

14.1 UN number

ADN	:	UN 3265
ADR	:	UN 3265
RID	:	UN 3265
IMDG	:	UN 3265
IATA	:	UN 3265

14.2 UN proper shipping name

ADN	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (QUARTERNARY AMMONIUM COMPOUNDS, BENZYL C12 - C16 ALKYLDIMETHYL, CHLORIDES, GLUTARALDEHYDE)
ADR	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (QUARTERNARY AMMONIUM COMPOUNDS, BENZYL C12 - C16 ALKYLDIMETHYL, CHLORIDES, GLUTARALDEHYDE)
RID	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (QUARTERNARY AMMONIUM COMPOUNDS, BENZYL C12 - C16 ALKYLDIMETHYL, CHLORIDES, GLUTARALDEHYDE)
IMDG	:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (QUARTERNARY AMMONIUM COMPOUNDS, BENZYL C12 - C16 ALKYLDIMETHYL, CHLORIDES, GLUTARALDEHYDE)
IATA	:	Corrosive liquid, acidic, organic, n.o.s. (QUARTERNARY AMMONIUM COMPOUNDS, BENZYL C12 - C16 ALKYLDIMETHYL, CHLORIDES, GLUTARALDEHYDE)

14.3 Transport hazard class(es)

ADN	:	8
ADR	:	8
RID	:	8
IMDG	:	8
IATA	:	8

14.4 Packing group

ADN

Packing group	:	II
Classification Code	:	C3
Hazard Identification Number	:	80
Labels	:	8
	:	

ADR

Packing group : II
Classification Code : C3
Hazard Identification Number : 80
Labels : 8
:

Tunnel restriction code : (E)

RID

Packing group : II
Classification Code : C3
Hazard Identification Number : 80
Labels : 8
:

IMDG

Packing group : II
Labels : 8
:

EmS Code : F-A, S-B

IATA (Cargo)

Packing instruction (cargo aircraft) : 855 : 30.00 L
Packing group : II
Labels : 8
:

IATA (Passenger)

Packing instruction (passenger aircraft) : 851 : 1.00 L
Packing group : II
Labels : 8
:

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

Hazard and Handling Notes. : Corrosive.
Environmentally hazardous substance.
Keep away from foodstuffs, acids and alkalis.

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 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
International Chemical Weapons Convention (CWC) Schedules of Toxic Chemicals and Precursors	:	Not applicable
Regulation (EC) on substances that deplete the ozone layer	:	Not applicable
Council Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors.	:	Neither banned nor restricted
Council Regulation (EC) No 273/2004 on drug precursors	:	Not applicable
UK REACH List of substances subject to authorisation (Annex XIV)	:	Not applicable
GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation	:	Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH)

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

15.2 Chemical safety assessment

Not applicable

SECTION 16: Other information

Full text of H-Statements

H226	:	Flammable liquid and vapour.
H301	:	Toxic if swallowed.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H314	:	Causes severe skin burns and eye damage.
H315	:	Causes skin irritation.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H330	:	Fatal if inhaled.
H331	:	Toxic if inhaled.
H334	:	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	:	May cause respiratory irritation.
H336	:	May cause drowsiness or dizziness.
H400	:	Very toxic to aquatic life.
H410	:	Very toxic to aquatic life with long lasting effects.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Short-term (acute) aquatic hazard
Aquatic Chronic	:	Long-term (chronic) aquatic hazard
Asp. Tox.	:	Aspiration hazard
Eye Dam.	:	Serious eye damage
Flam. Liq.	:	Flammable liquids
Resp. Sens.	:	Respiratory sensitisation
Skin Corr.	:	Skin corrosion
Skin Irrit.	:	Skin irritation
Skin Sens.	:	Skin sensitisation
STOT SE	:	Specific target organ toxicity - single exposure
GB EH40	:	UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	:	Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	:	Short-term exposure limit (15-minute reference period)

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; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Met. Corr. 1	H290	Based on product data or assessment
Acute Tox. 4	H302	Based on product data or assessment
Skin Corr. 1B	H314	Based on product data or assessment
Eye Dam. 1	H318	Based on product data or assessment
Resp. Sens. 1	H334	Calculation method
Skin Sens. 1	H317	Calculation method
Aquatic Acute 1	H400	Calculation method
Aquatic Chronic 1	H410	Calculation method

The data contained in this Safety Data Sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered to be a guidance for processing and does not contain any warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. It is the responsibility of the recipient of the product to ensure that any proprietary rights and existing laws and legislation are observed.

Relevant changes from the previous version are marked on the left side of the Safety Data Sheet with a black double bar in appropriate places.