

SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758



K-OBIOL EC25

Version Revision Date: SDS Number: Date of last issue: 01.12.2025
3.2 11.12.2025 11432548-00008 Date of first issue: 15.08.2024

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

1.1 Product identifier

Trade name : K-OBIOL EC25

Product code : Article/SKU: D00000199 UVP: 79503229 Specification: 102000002608

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

Use of the Substance/Mixture : Insecticide

Recommended restrictions on use : Not applicable

1.3 Details of the supplier of the safety data sheet

Company : 2022 Environmental Science FR SAS
Milton Hall, Ely Rd., Milton
CB24 6WZ Cambridge, United Kingdom

Telephone : 00800-1214-9451 (UK)

E-mail address of person responsible for the SDS : service.clients.es.france@envu.com

1.4 Emergency telephone number

+44 20 3807 3798

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)

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

Serious eye damage, Category 1 H318: Causes serious eye damage.

H317: May cause an allergic skin reaction.

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Specific target organ toxicity - single exposure, Category 3	H335: May cause respiratory irritation.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Short-term (acute) aquatic hazard, Category 1	H400: Very toxic to aquatic life.
Long-term (chronic) aquatic hazard, Category 1	H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

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

Hazard pictograms	:	    
Signal word	:	Danger
Hazard statements	:	H226 Flammable liquid and vapour. H302 + H332 Harmful if swallowed or if inhaled. H304 May be fatal if swallowed and enters airways. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H410 Very toxic to aquatic life with long lasting effects.
Supplemental Hazard Statements	:	EUH066 Repeated exposure may cause skin dryness or cracking.
Precautionary statements	:	Prevention: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. Response: 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. P321 Specific treatment (see supplemental first aid instructions on this label). P391 Collect spillage.

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Hazardous components which must be listed on the label:

Hydrocarbons, C9, aromatics

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts

Deltamethrin

2-Methyl-1-propanol

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.

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours).

Vapours may form explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Emulsifiable concentrate (EC)

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hydrocarbons, C9, aromatics	64742-95-6 01-2119455851-35	Flam. Liq. 3; H226 STOT SE 3; H336 STOT SE 3; H335 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 60 - < 65
2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO)	51-03-6 200-076-7 604-096-00-0 01-2119537431-46	Eye Irrit. 2; H319 STOT SE 3; H335 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1	24.472
Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts	68953-96-8 273-234-6 01-2119964467-24	Acute Tox. 4; H312 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 3 - < 5
Deltamethrin	52918-63-5	Acute Tox. 3; H301	2.7

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	258-256-6 607-319-00-X	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	
2-Methyl-1-propanol	78-83-1 201-148-0 603-108-00-1 01-2119484609-23	Flam. Liq. 3; H226 Skin Irrit. 2; H315 Eye Dam. 1; H318 STOT SE 3; H335 STOT SE 3; H336	>= 1 - < 3

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.

When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).

If inhaled : If inhaled, remove to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
Get medical attention if symptoms occur.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention immediately.

If swallowed : If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control centre immediately.

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Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : No information available.

Skin and eye paraesthesia which may be severe
Usually transient with resolution within 24 hours
The product causes irritation of eyes, skin and mucous membranes.
Cough
sneezing
discomfort in the chest
tachycardia
hypotension
Nausea
Abdominal pain
Diarrhoea
Vomiting
Dizziness
Blurred vision
Headache
anorexia
Somnolence
Coma
Convulsions
Tremors
Prostration
Airway hyperreaction
Pulmonary oedema
Palpitation
muscle twitching

Risks : Harmful if swallowed or if inhaled.
May be fatal if swallowed and enters airways.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.

This product contains a pyrethroid.
Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : There is no specific antidote available.
Initial treatment: symptomatic.
Keep respiratory tract clear.
Oxygen or artificial respiration if needed.
Monitor: respiratory and cardiac functions.
In case of ingestion gastric lavage should be considered in

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cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable.
In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens.
If not effective, phenobarbital may be used.
Contraindication: atropine.
Contraindication: derivatives of adrenaline.
Recovery is spontaneous and without sequelae.
In case of skin irritation, application of oils or lotions containing vitamin E may be considered.
No information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

Unsuitable extinguishing media : High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Metal oxides
Sulphur oxides
Bromine compounds
Nitrogen oxides (NO_x)

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice (see section 7) and personal protective equipment recommendations (see section 8).

6.2 Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

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

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : If sufficient ventilation is unavailable, use with local exhaust ventilation.
Use explosion-proof electrical, ventilating and lighting equipment.

Advice on safe handling : Do not get on skin or clothing.

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Avoid breathing mist or vapours.
Do not swallow.
Do not get in eyes.
Wash skin thoroughly after handling.
Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment
Non-sparking tools should be used.
Keep container tightly closed.
Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respiratory irritants or sensitisers.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Take precautionary measures against static discharges.
Do not eat, drink or smoke when using this product.
Take care to prevent spills, waste and minimize release to the environment.

Hygiene measures : If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Advice on common storage : Do not store with the following product types:
Strong oxidizing agents
Self-reactive substances and mixtures
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives
Gases
Very acutely toxic substances and mixtures

7.3 Specific end use(s)

Specific use(s) : Refer to the label and/or leaflet.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
2-Methyl-1-propanol	78-83-1	STEL	75 ppm 231 mg/m ³	GB EH40
		TWA	50 ppm 154 mg/m ³	GB EH40

Derived No Effect Level (DNEL)

Substance name	End Use	Exposure routes	Potential health effects	Value
2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO)	Workers	Inhalation	Long-term systemic effects	3.875 mg/m ³
	Workers	Inhalation	Acute systemic effects	7.75 mg/m ³
	Workers	Inhalation	Long-term systemic effects	3.875 mg/m ³
	Workers	Inhalation	Acute local effects	3.875 mg/m ³
	Workers	Skin contact	Long-term systemic effects	27.7 mg/kg bw/day
	Workers	Skin contact	Acute systemic effects	55.5 mg/kg bw/day
	Workers	Skin contact	Long-term local effects	0.44 mg/cm ²
	Workers	Skin contact	Acute local effects	0.888 mg/cm ²
	Consumers	Inhalation	Long-term systemic effects	1.94 mg/m ³
	Consumers	Inhalation	Acute systemic effects	3.875 mg/m ³
	Consumers	Inhalation	Long-term local effects	1.94 mg/m ³
	Consumers	Inhalation	Acute local effects	1.94 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	13.9 mg/kg bw/day
	Consumers	Skin contact	Acute systemic effects	27.8 mg/kg bw/day
	Consumers	Skin contact	Long-term local effects	0.22 mg/cm ²
	Consumers	Skin contact	Acute local effects	0.22 mg/cm ²
	Consumers	Ingestion	Long-term systemic effects	1.14 mg/kg bw/day
	Consumers	Ingestion	Acute systemic effects	2.3 mg/kg bw/day

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Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts	Workers	Inhalation	Long-term systemic effects	6 mg/m3
	Workers	Skin contact	Long-term systemic effects	8.5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1.48 mg/m3
	Consumers	Skin contact	Long-term systemic effects	4.25 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	0.43 mg/kg bw/day
2-Methyl-1-propanol	Workers	Inhalation	Long-term local effects	310 mg/m3
	Consumers	Inhalation	Long-term local effects	55 mg/m3

Predicted No Effect Concentration (PNEC)

Substance name	Environmental Compartment	Value
2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO)	Fresh water	0.001 mg/l
	Marine water	0.0001 - 0.000148 mg/l
	Sewage treatment plant	10 mg/l
	Fresh water sediment	0.019 mg/kg
	Marine sediment	0.0002 mg/kg
	Soil	0.016 mg/kg
	Oral (Secondary Poisoning)	12.53 mg/kg food
Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts	Fresh water	0.023 mg/l
	Freshwater - intermittent	0.29 mg/l
	Marine water	0.002 mg/l
	Sewage treatment plant	5.5 mg/l
	Fresh water sediment	1.35 mg/kg dry weight (d.w.)
	Marine sediment	0.135 mg/kg dry weight (d.w.)
	Soil	0.124 mg/kg dry weight (d.w.)
Deltamethrin	Fresh water	0.0007 µg/l
	Fresh water sediment	0.0062 mg/kg dry weight (d.w.)
	Sewage treatment plant	30 µg/l

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.

If sufficient ventilation is unavailable, use with local exhaust ventilation.

Use explosion-proof electrical, ventilating and lighting equipment.

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Personal protective equipment

Eye/face protection	: Wear the following personal protective equipment: Chemical resistant goggles must be worn. If splashes are likely to occur, wear: Face-shield Equipment should conform to BS EN 166
Hand protection	
Material	: Nitrile rubber
Break through time	: > 480 min
Glove thickness	: > 0.4 mm
Guideline	: Equipment should conform to BS EN 374
Protective index	: Class 6
Remarks	: Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Skin and body protection	: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: If assessment demonstrates that there is a risk of explosive atmospheres or flash fires, use flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Respiratory protection	: If adequate local exhaust ventilation is not available or exposure assessment demonstrates exposures outside the recommended guidelines, use respiratory protection. Filter should conform to BS EN 14387
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	: liquid
Colour	: yellow, light brown
Odour	: No data available

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Odour Threshold	: No data available
pH	: 4.5 - 7 (23 °C) Concentration: 1 %
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: No data available
Flash point	: 42.5 °C(1,013 hPa) Method: ISO 2719, Pensky-Martens closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: No data available
Upper explosion limit / Upper flammability limit	: No data available
Lower explosion limit / Lower flammability limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Density	: ca. 0.94 g/cm³ (20.00 °C)
Solubility(ies)	
Water solubility	: completely miscible
Partition coefficient: n-octanol/water	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, kinematic	: No data available
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

9.2 Other information

Surface tension	: ca. 27.70 mN/m, 40 °C
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Particle size : Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Flammable liquid and vapour.
Vapours may form explosive mixture with air.
Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Harmful if swallowed or if inhaled.

Product:

Acute oral toxicity : LD50 (Rat): 710 mg/kg
Acute inhalation toxicity : LC50 (Rat): 3.15 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

Components:

Hydrocarbons, C9, aromatics:

Acute oral toxicity : LD50 (Rat, female): 3,492 mg/kg

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Acute inhalation toxicity : LC50 (Rat): > 6.193 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 3,160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 423

Acute inhalation toxicity : LC50 (Rat): > 5.2 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 1,000 - 2,000 mg/kg
Method: OECD Test Guideline 402
Remarks: Based on data from similar materials

Deltamethrin:

Acute oral toxicity : LD50 (Rat, female): 87 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 0.6 mg/l
Exposure time: 6 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: The substance or mixture has no acute dermal toxicity

2-Methyl-1-propanol:

Acute oral toxicity : LD50 (Rat, female): 3,350 mg/kg

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Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 18.18 mg/l
Exposure time: 6 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit, female): 2,460 mg/kg
Method: OECD Test Guideline 402

Skin corrosion/irritation

Not classified based on available information.

Product:

Species : Rabbit
Result : No skin irritation

Components:

Hydrocarbons, C9, aromatics:

Assessment : Repeated exposure may cause skin dryness or cracking.

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

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

Assessment : Repeated exposure may cause skin dryness or cracking.

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Species : Rabbit
Result : Skin irritation

Deltamethrin:

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

2-Methyl-1-propanol:

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

Serious eye damage/eye irritation

Causes serious eye damage.

Product:

Species : Rabbit
Result : Irreversible effects on the eye

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Components:

Hydrocarbons, C9, aromatics:

Species : Rabbit
Result : No eye irritation

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Species : Rabbit
Result : Irreversible effects on the eye

Deltamethrin:

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

2-Methyl-1-propanol:

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

Respiratory or skin sensitisation

Skin sensitisation

May cause an allergic skin reaction.

Respiratory sensitisation

Not classified based on available information.

Product:

Test Type : Local lymph node assay (LLNA)
Exposure routes : Skin contact
Species : Mouse
Method : OECD Test Guideline 429
Result : positive

Result : Probability or evidence of high skin sensitisation rate in humans

Components:

Hydrocarbons, C9, aromatics:

Test Type : Maximisation Test
Exposure routes : Skin contact

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Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

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

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Test Type	:	Maximisation Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

Deltamethrin:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative

2-Methyl-1-propanol:

Test Type	:	Buehler Test
Exposure routes	:	Skin contact
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	negative
Remarks	:	Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Hydrocarbons, C9, aromatics:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Result: negative
Genotoxicity in vivo	:	Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis) Species: Rat Application Route: inhalation (vapour) Result: negative

Germ cell mutagenicity- As- : Classified based on benzene content < 0.1% (Regulation (EC)

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essment 1272/2008, Annex VI, Part 3, Note P)

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

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

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Deltamethrin:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 473
Result: negative

Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Method: OECD Test Guideline 482
Result: negative

2-Methyl-1-propanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Result: negative

Test Type: in vitro micronucleus test
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 474

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Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Hydrocarbons, C9, aromatics:

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Species : Rat
Application Route : Ingestion
Exposure time : 107 weeks
Method : OECD Test Guideline 451
Result : negative

Deltamethrin:

Species : Rat
Application Route : Ingestion
Method : OECD Test Guideline 453
Result : negative

Reproductive toxicity

Not classified based on available information.

Components:

Hydrocarbons, C9, aromatics:

Effects on fertility : Test Type: Three-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: Ingestion
Result: negative

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative

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Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Effects on fertility : Test Type: Three-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Effects on foetal development

: Test Type: Embryo-foetal development

Species: Rat

Application Route: Ingestion

Result: negative

Remarks: Based on data from similar materials

Deltamethrin:

Effects on fertility

: Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: Ingestion

Method: OECD Test Guideline 416

Result: negative

Effects on foetal development

: Test Type: Embryo-foetal development

Species: Rabbit

Application Route: Ingestion

Method: OECD Test Guideline 414

Result: negative

2-Methyl-1-propanol:

Effects on fertility

: Test Type: Two-generation reproduction toxicity study

Species: Rat

Application Route: inhalation (vapour)

Method: OPPTS 870.3800

Result: negative

Effects on foetal development

: Test Type: Embryo-foetal development

Species: Rat

Application Route: inhalation (vapour)

Method: OECD Test Guideline 414

Result: negative

STOT - single exposure

May cause respiratory irritation.

May cause drowsiness or dizziness.

Components:

Hydrocarbons, C9, aromatics:

Assessment : May cause drowsiness or dizziness.

Assessment : May cause respiratory irritation.

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2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Assessment : May cause respiratory irritation.

2-Methyl-1-propanol:

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

STOT - repeated exposure

Not classified based on available information.

Components:

Deltamethrin:

Assessment : No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity

Components:

Hydrocarbons, C9, aromatics:

Species : Rat, female
NOAEL : 900 mg/m³
Application Route : inhalation (vapour)
Exposure time : 12 Months
Remarks : Based on data from similar materials

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Species : Rat
NOAEL : 1,323 mg/kg
Application Route : Ingestion
Exposure time : 7 Weeks

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Species : Rat
LOAEL : > 100 mg/kg
Application Route : Ingestion
Exposure time : 9 Months
Remarks : Based on data from similar materials

Deltamethrin:

Species : Dog
NOAEL : 1 mg/kg
LOAEL : 10 mg/kg
Application Route : Ingestion
Exposure time : 52 Weeks
Method : OECD Test Guideline 452

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2-Methyl-1-propanol:

Species	:	Rat
NOAEL	:	> 1,450 mg/kg
Application Route	:	Ingestion
Exposure time	:	90 Days
Method	:	OECD Test Guideline 408
Species	:	Rat
NOAEL	:	>= 7.5 mg/l
Application Route	:	inhalation (vapour)
Exposure time	:	17 Weeks

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

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

Components:

Hydrocarbons, C9, aromatics:

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

2-Methyl-1-propanol:

The substance or mixture causes concern owing to the assumption that it causes a human aspiration toxicity hazard.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): 0.06 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.0075 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 : > 9.10 mg/l Exposure time: 96 h Remarks: Based on data from similar materials

Components:

Hydrocarbons, C9, aromatics:

Toxicity to fish	:	LL50 (Oncorhynchus mykiss (rainbow trout)): 9.2 mg/l Exposure time: 96 h
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Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3.2 mg/l
Exposure time: 48 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EL50 (Pseudokirchneriella subcapitata (green algae)): 7.9 mg/l
Exposure time: 72 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

NOELR (Pseudokirchneriella subcapitata (green algae)): 0.22 mg/l
Exposure time: 72 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 : > 99 mg/l
Exposure time: 10 min

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Toxicity to fish : LC50 (Cyprinodon variegatus (sheepshead minnow)): 3.94 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.51 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 3.89 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

NOEC (Pseudokirchneriella subcapitata (green algae)): 0.824 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

M-Factor (Acute aquatic toxicity) : 1

Toxicity to microorganisms : EC50 : > 1,000 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209

Toxicity to fish (Chronic toxicity) : NOEC: 0.18 mg/l
Exposure time: 35 d

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Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.03 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)

M-Factor (Chronic aquatic toxicity) : 1

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): > 1 - 10 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 10 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

NOEC (Raphidocelis subcapitata (freshwater green alga)): > 1 mg/l
Exposure time: 72 h
Remarks: Based on data from similar materials

Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Toxicity to fish (Chronic toxicity) : NOEC: > 0.1 - 1 mg/l
Exposure time: 72 d
Species: Oncorhynchus mykiss (rainbow trout)
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: > 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Remarks: Based on data from similar materials

Deltamethrin:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.15 µg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Gammarus fasciatus (freshwater shrimp)): 0.0003 µg/l
Exposure time: 96 h

Toxicity to algae/aquatic plants : ErC50 (Chlorella vulgaris (Fresh water algae)): > 0.47 mg/l

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plants	Exposure time: 96 h
M-Factor (Acute aquatic toxicity)	: 1,000,000
Toxicity to microorganisms	: EC50 (activated sludge): > 0.3 mg/l Exposure time: 3 h
Toxicity to fish (Chronic toxicity)	: NOEC: 0.017 µg/l Exposure time: 260 d Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0.0041 µg/l Exposure time: 21 d Species: Daphnia magna (Water flea)
M-Factor (Chronic aquatic toxicity)	: 1,000,000

Ecotoxicology Assessment

Chronic aquatic toxicity	: M-factor: 1000000 Remarks: Based on national or regional regulation.
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2-Methyl-1-propanol:

Toxicity to fish	: LC50 (Pimephales promelas (fathead minnow)): 1,430 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	: EC50 (Daphnia pulex (Water flea)): 1,100 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): 1,799 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
	NOEC (Pseudokirchneriella subcapitata (green algae)): 117 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	: EC50 : > 1,000 mg/l Exposure time: 16 h
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 20 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea)

12.2 Persistence and degradability

Components:

Hydrocarbons, C9, aromatics:

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Biodegradability : Result: Readily biodegradable.
Biodegradation: 78 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301E
Remarks: Based on data from similar materials

Deltamethrin:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

2-Methyl-1-propanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 74 %
Exposure time: 28 d
Method: OECD Test Guideline 301D

12.3 Bioaccumulative potential

Components:

Hydrocarbons, C9, aromatics:

Partition coefficient: n-octanol/water : log Pow: 3.7 - 4.5

2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO):

Partition coefficient: n-octanol/water : log Pow: 5

Benzenesulfonic acid, mono-C11-13-branched alkyl derivatives, calcium salts:

Partition coefficient: n-octanol/water : log Pow: 4.595
Method: Regulation (EC) No. 440/2008, Annex, A.8

Deltamethrin:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 1,400

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Partition coefficient: n-octanol/water : log Pow: 6.4

2-Methyl-1-propanol:

Partition coefficient: n-octanol/water : log Pow: 1
Method: OECD Test Guideline 117

12.4 Mobility in soil

No data available

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) at levels of 0.1% or higher.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.
Do not dispose of waste into sewer.

Residues of the biocidal product must be disposed of in accordance with the provisions of the Biocidal Products Regulation (BPR, Regulation (EU) 528/2012), the Waste Framework Directive (WFD, Directive 2008/98/EC) and in the European Waste Catalogue (EWC) as well as in national and regional regulations.

Contaminated packaging : Follow advice on product label and/or leaflet.
Empty containers retain residue and can be dangerous.

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Do not re-use empty containers.

Waste Code : The following Waste Codes are only suggestions:

used product
02 01 08*, agrochemical waste containing hazardous substances

unused product
02 01 08*, agrochemical waste containing hazardous substances

uncleaned packagings
15 01 10*, packaging containing residues of or contaminated by hazardous substances

SECTION 14: Transport information

14.1 UN 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.
(Hydrocarbons, C9, aromatics, 2-Methyl-1-propanol)
ADR : FLAMMABLE LIQUID, N.O.S.
(Hydrocarbons, C9, aromatics, 2-Methyl-1-propanol)
RID : FLAMMABLE LIQUID, N.O.S.
(Hydrocarbons, C9, aromatics, 2-Methyl-1-propanol)
IMDG : FLAMMABLE LIQUID, N.O.S.
(Hydrocarbons, C9, aromatics, 2-Methyl-1-propanol, Deltamethrin, 2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl butoxide/PBO))
IATA : Flammable liquid, n.o.s.
(Hydrocarbons, C9, aromatics, 2-Methyl-1-propanol)

14.3 Transport hazard class(es)

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

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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

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

Remarks : 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	Substance(s) or mixture(s) are listed here according to their appearance in the regulation, irrespective of their use/purpose or the conditions of the restriction. Please refer to the conditions in corresponding Regulation to determine whether an entry is applicable to the placing on the market or not.
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	
Regulation (EU) No 2024/590 on substances that deplete the ozone layer	: 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	
Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products		
WHO-classification		
Classification	: II (Moderately hazardous)	
Product Type	: Insecticides, acaricides and products to control other arthropods	
Active substance	: 25 g/l	

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Deltamethrin

225 g/l
2-(2-Butoxyethoxy)ethyl 6-propylpiperonyl ether (Piperonyl
butoxide/PBO)

Control of Major Accident Hazards Regulations 2015 (COMAH)

		Quantity 1	Quantity 2
E1	ENVIRONMENTAL HAZARDS	100 t	200 t
P5c	FLAMMABLE LIQUIDS	5,000 t	50,000 t
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (includ- ing diesel fuels, home heating oils and gas oil blending streams),(d) hea- vy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environ- mental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 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.

Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No 1348)

Merchant Shipping (Dangerous Goods and Marine Pollutants) Regulations 1997 (SI 1997 No 2367)

Air Navigation Dangerous Goods Regulations 2002 (SI 2002 No 2786)

Chemical (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No 716)

Chemical (Hazard Information and Packaging for Supply) (Northern Ireland) Regulations 2009

Control of Substances Hazardous to Health Regulations 2002 (SI 2002 No 2677)

EH40 Occupational Exposure Limits - Table 1 List of approved workplace exposure limits

Control of Pesticide Regulations 1986

Dangerous Substances and Explosive Atmospheres Regulations 2002

Environmental Protection Act 1990, Part II

Environmental Protection (Duty of Care) Regulations 1991

The Waste Management Licensing Regulations 1994 (as amended)

Hazardous Waste Regulations 2005 (Replacing Special Waste Regulations 1996 as amended)

Landfill Directive

Regulation on Substances That Deplete the Ozone Layer 1994 (EEC/3093/94)

Water Resources Act 1991

Anti-Pollution Works Regulations 1999

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15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Other information : Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

Full text of H-Statements

- H226 : Flammable liquid and vapour.
- H301 : Toxic if swallowed.
- H304 : May be fatal if swallowed and enters airways.
- H312 : Harmful in contact with skin.
- H315 : Causes skin irritation.
- H318 : Causes serious eye damage.
- H319 : Causes serious eye irritation.
- H331 : Toxic 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
- Eye Irrit. : Eye irritation
- Flam. Liq. : Flammable liquids
- Skin Irrit. : Skin irritation
- 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 Harmonised 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 car-

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rying 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECL - 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 - Organisation 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

Sources of key data used to compile the Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Classification of the mixture:

Flam. Liq. 3	H226
Acute Tox. 4	H302
Acute Tox. 4	H332
Eye Dam. 1	H318
Skin Sens. 1A	H317
STOT SE 3	H335
STOT SE 3	H336
Asp. Tox. 1	H304
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Based on product data or assessment
Based on product data or assessment
Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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