



SAFETY DATA SHEET
(REACH regulation (EC) n° 1907/2006 - n° 2020/878)

SECTION 1 : IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product name : AURODIL EC

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

Recommended use(s): Insecticide - biocidal use
Use(s) advised against: Do not use for purposes other than those stated in "Recommended use(s)"

Use descriptor system (REACH) :

Not available.

1.3. Details of the supplier of the safety data sheet

Registered company name : LODI S.A.S.
Address : PA des Quatre Routes.35390.Grand-Fougeray.FRANCE.
Telephone : 02.99.08.48.59. Fax : 02 99 08 38 68.
fds@lodi.fr
<https://www.lodi-group.fr/>

1.4. Emergency telephone number : +33 (0)1 45 42 59 59.

Association/Organisation : Centres antipoison : <http://www.centres-antipoison.net..>

Other emergency numbers

European poison Control Center: 112

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Acute oral toxicity, Category 4 (Acute Tox. 4, H302).
Acute inhalation toxicity, Category 4 (Acute Tox. 4, H332).
Repeated exposure may cause skin dryness or cracking (EUH066).
Eye irritation, Category 2 (Eye Irrit. 2, H319).
Skin sensitisation, Category 1B (Skin Sens. 1B, H317).
Aspiration hazard, Category 1 (Asp. Tox. 1, H304).
Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).
Hazardous to the aquatic environment - Chronic hazard, Category 1 (Aquatic Chronic 1, H410).

2.2. Label elements

Biocidal mixture (see section 15).

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :



GHS07



GHS08



GHS09

Signal Word :

DANGER

Product identifiers :

EC 258-067-9 PERMETHRIN (ISO)
EC 920-901-0 HYDROCARBURES, C11-C13, ISOALCANES, <2% AROMATIQUES
EC 209-542-4 ALLETHRINE

Hazard statements :

H302 + H332 Harmful if swallowed or if inhaled.
H304 May be fatal if swallowed and enters airways.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements - Prevention :

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

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Precautionary statements - Response :

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P302 + P352 IF ON SKIN: Wash with plenty of water and soap.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331 Do NOT induce vomiting.

Precautionary statements - Disposal :

P501 Dispose of contents/container according to the regulation.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European Chemicals Agency (ECHA) under article 59 of REACH: <http://echa.europa.eu/fr/candidate-list-table>
The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.
The mixture does not contain substances >= 0.1% with endocrine disrupting properties in accordance with the criteria of the Delegated Regulation (EU) 2017/2100 of the Commission or Regulation (EU) 2018/605 of the Commission.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	Classification (EC) 1272/2008	Note	%
INDEX: 613_058_002E CAS: 52645-53-1 EC: 258-067-9 PERMETHRIN (ISO)	GHS07, GHS09 Wng Acute Tox. 4, H302 Skin Sens. 1B, H317 Acute Tox. 4, H332 Aquatic Acute 1, H400 M Acute = 1000 Aquatic Chronic 1, H410 M Chronic = 1000		25 <= x % < 50
INDEX: 920_901_0 CAS: EC: 920-901-0 REACH: 01-2119456810-40 HYDROCARBURES, C11-C13, ISOALCANES, <2% AROMATIQUES	GHS08 Dgr Asp. Tox. 1, H304 EUH066		10 <= x % < 25
INDEX: 51_03_6C CAS: 51-03-6 EC: 200-076-6 REACH: 01-2119537431-46 PIPERONYL BUTOXIDE (ISO)	GHS07, GHS09 Wng Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1 EUH066		10 <= x % < 25
INDEX: 231937_89_6 CAS: 231937-89-6 EC: 209-542-4 ALLETHRINE	GHS07, GHS09 Wng Acute Tox. 4, H302 Acute Tox. 4, H332 Aquatic Chronic 1, H410 M Chronic = 1		2.5 <= x % < 10
INDEX: 1335202_81_7 CAS: 1335202-81-7 EC: 932-231-6 REACH: 01-2119560592-37 BENZENESULFONIC ACID, C10-13-ALKYL DERIVS., CALCIUM SALTS	GHS05 Dgr Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Chronic 3, H412		0 <= x % < 2.5
INDEX: 603_108_00_1 CAS: 78-83-1 EC: 201-148-0 2-METHYLPROPAN-1-OL	GHS07, GHS05, GHS02 Dgr Flam. Liq. 3, H226 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335 STOT SE 3, H336	[i]	0 <= x % < 2.5
INDEX: R104_76_7 CAS: 104-76-7 EC: 203-234-3 2-ETHYL-1-HEXANOL	GHS07 Wng Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[i]	0 <= x % < 2.5

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Specific concentration limits:

Identification	Specific concentration limits	ATE
INDEX: 613_058_002E CAS: 52645-53-1 EC: 258-067-9 PERMETHRIN (ISO)		inhalation: ATE = 0.48 mg/l 4h (dust/mist)
INDEX: 603_108_00_1 CAS: 78-83-1 EC: 201-148-0 2-METHYLPROPAN-1-OL		dermal: ATE = 3400 mg/kg BW
INDEX: R104_76_7 CAS: 104-76-7 EC: 203-234-3 2-ETHYL-1-HEXANOL		oral: ATE = 2047 mg/kg BW

Nanoform

Not available.

Information on ingredients :

(Full text of H-phrases: see section 16)

[i] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. description of first aid measures

In the event of exposure by inhalation :

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

Do not proceed with mouth-to-mouth or mouth-to-nose resuscitation. Use the appropriate equipment.

in case of inhalation, obtain a medical examination immediately and show the label

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

If there is any redness, pain or visual impairment, consult an ophthalmologist.

Protect uninjured eye.

In the event of splashes or contact with skin :

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

In the event of an allergic reaction, seek medical attention.

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention immediately, showing the label.

4.2. Most important symptoms and effects, both acute and delayed

The product may cause a skin irritation.

May cause sensitization by skin contact.

Vapor inhalation may cause drowsiness and dizziness

4.3. Indication of any immediate medical attention and special treatment needed

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Specific and immediate treatment :

Treat symptomatically.

Information for the doctor :

Treat symptomatically.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media

Suitable methods of extinction

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In the event of a fire, use :

- sprayed water or water mist
- foam
- multipurpose ABC powder
- BC powder
- carbon dioxide (CO₂)

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

5.3. Advice for firefighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

Wear personal protection equipment.

For non first aid worker

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

In case of exposure to vapours/dust/ aerosols, wear breathing apparatus.

Use an adequate respiratory equipment

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

Rapidly collect the product. To do so, wear a mask and protective clothing

Wash with plenty of water.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

Individuals with a history of skin sensitisation should not, under any circumstance, handle this mixture.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

Avoid contact with skin and eyes, inhalation of vapours and mists. Don't use empty container before they have been cleaned. Before making transfer operations, assure that there aren't any incompatible material residuals in the containers. Do not eat, drink and smoke when using this product.

Fire prevention :

Handle in well-ventilated areas.

Never inhale this mixture.

Prevent access by unauthorised personnel.

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Recommended equipment and procedures :

For personal protection, see section 8.
Observe precautions stated on label and also industrial safety regulations.
Avoid inhaling vapors.
Provide vapor extraction at the emission source and also general ventilation of the premises.
Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.
In all cases, recover emissions at source.
Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep the container tightly closed in a dry, well-ventilated place.
Keep away from food and drink, including those for animals.
The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Packaging

Always keep in packaging made of an identical material to the original.
Recommended types of packaging :
Original packaging.
Suitable packaging materials :
Original packaging.
Unsuitable packaging materials :
Different than the original packaging.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
104-76-7 2-ETHYL-1-HEXANOL	5.4	1	-	-	-

- Belgium :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
78-83-1 2-METHYLPROPAN-1-OL	50 ppm 154 mg/m3				
104-76-7 2-ETHYL-1-HEXANOL	1 ppm 5.4 mg/m3				

- France :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
78-83-1 2-METHYLPROPAN-1-OL	50	150				84
104-76-7 2-ETHYL-1-HEXANOL	1	5,4			VLRI	84

- UK :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
78-83-1 2-METHYLPROPAN-1-OL	50 ppm 154 mg/m3	75 ppm 231 mg/m3			
104-76-7 2-ETHYL-1-HEXANOL	1 ppm 5.4 mg/m3				

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
78-83-1 2-METHYLPROPAN-1-OL	50 ppm 152 mg/m3				

Predicted no effect concentration (PNEC):

2-ETHYL-1-HEXANOL (CAS: 104-76-7)

Environmental compartment: Soil.
PNEC : 0.047 mg/kg

Environmental compartment: Fresh water.

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PNEC :	0.017 mg/l
Environmental compartment: PNEC :	Sea water. 0.0017 mg/l
Environmental compartment: PNEC :	Fresh water sediment. 28 mg/kg
Environmental compartment: PNEC :	Marine sediment. 0.028 mg/kg
Environmental compartment: PNEC :	Waste water treatment plant. 10 mg/l
2-METHYLPROPAN-1-OL (CAS: 78-83-1)	
Environmental compartment: PNEC :	Fresh water. 0.4 mg/l
Environmental compartment: PNEC :	Sea water. 0.04 mg/l
Environmental compartment: PNEC :	Fresh water sediment. 1.52 mg/kg
Environmental compartment: PNEC :	Marine sediment. 0.125 mg/kg
Environmental compartment: PNEC :	Waste water treatment plant. 10 mg/l
PERMETHRIN (ISO) (CAS: 52645-53-1)	
Environmental compartment: PNEC :	Fresh water. 0.00047 µg/l
Environmental compartment: PNEC :	Fresh water sediment. 0.001 mg/kg
Environmental compartment: PNEC :	Waste water treatment plant. 100 mg/l

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard ISO 16321.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Nitrile rubber (butadiene-acrylonitrile copolymer rubber (NBR))

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- PVA (Polyvinyl alcohol)

- Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 to prevent skin contact.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Avoid inhaling vapors.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state

Physical state : Fluid liquid.

Colour

Colour: Yellow/brown

Odour

Odour threshold : Not stated.

Odour : Light.

Melting point

Melting point/melting range : Not relevant.

Freezing point

Freezing point / Freezing range : Not stated.

Boiling point or initial boiling point and boiling range

Boiling point/boiling range : Not relevant.

Flammability

Flammability (solid, gas) : Not stated.

Lower and upper explosion limit

Explosive properties, lower explosivity limit (%) : Not stated.

Explosive properties, upper explosivity limit (%) : Not stated.

Flash point

Flash Point Interval : 60°C < FP <= 93°C

Auto-ignition temperature

Self-ignition temperature : Not relevant.

Decomposition temperature

Decomposition point/decomposition range : Not relevant.

pH

pH (aqueous solution) : 5.38

pH : Not relevant.

Kinematic viscosity

Viscosity : Not stated.

Viscosity : 14 mm²/s < v <= 20.5 mm²/s (40°C)

Solubility

Water solubility : Dilutable.

Fat solubility : Not stated.

Partition coefficient n-octanol/water (log value)

Partition coefficient: n-octanol/water : Not stated.

Vapour pressure

Vapour pressure (50°C) : Below 110 kPa (1.10 bar).

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Density and/or relative density

Density : 0.983

Relative vapour density

Vapour density : Not stated.

9.2. Other information

No data available.

9.2.1. Information with regard to physical hazard classes

No data available.

9.2.2. Other safety characteristics

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

10.4. Conditions to avoid

None.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

SECTION 11 : TOXICOLOGICAL INFORMATION

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

11.1.1. Substances

a) Acute toxicity :

2-ETHYL-1-HEXANOL (CAS: 104-76-7)

Oral route : LD50 = 2047 mg/kg body weight
Species : Rat

Dermal route : LD50 > 3000 mg/kg body weight
Species : Rat

2-METHYLPROPAN-1-OL (CAS: 78-83-1)

Oral route : LD50 > 2830 mg/kg body weight
Species : Rat

Dermal route : LD50 = 3400 mg/kg body weight
Species : Rabbit

Inhalation route (Dusts/mist) : LC50 > 18 mg/l
Species : Rat

ALLETHRINE (CAS: 231937-89-6)

Oral route : 300 < LD50 <= 2000 mg/kg

Dermal route : 2,000 < LD50 <= 5000 mg/kg

PIPERONYL BUTOXIDE (ISO) (CAS: 51-03-6)

Oral route : LD50 > 2000 mg/kg body weight
Species : Rat
OECD Guideline 401 (Acute Oral Toxicity)

Dermal route : LD50 > 2000 mg/kg body weight
Species : Rabbit

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	OECD Guideline 402 (Acute Dermal Toxicity)
Inhalation route (Dusts/mist) :	LC50 > 5.9 mg/l Species : Rat OECD Guideline 403 (Acute Inhalation Toxicity)
HYDROCARBURES, C11-C13, ISOALCANES, <2% AROMATIQUES (CAS: _)	
Oral route :	LD50 > 5000 mg/kg body weight Species : Rat OECD Guideline 401 (Acute Oral Toxicity)
Dermal route :	LD50 > 5000 mg/kg body weight Species : Rabbit OECD Guideline 402 (Acute Dermal Toxicity)
Inhalation route (Vapours) :	LC50 5000
PERMETHRIN (ISO) (CAS: 52645-53-1)	
Oral route :	300 < LD50 <= 2000 mg/kg
Dermal route :	LD50 > 2000 mg/kg body weight Species : Rabbit
Inhalation route (Dusts/mist) :	LC50 = 0.48 mg/l Duration of exposure : 4 h

b) Skin corrosion/skin irritation :

No data available.

c) Serious damage to eyes/eye irritation :

No data available.

d) Respiratory or skin sensitisation :

No data available.

e) Germ cell mutagenicity :

No data available.

f) Carcinogenicity :

No data available.

g) Reproductive toxicant :

No data available.

h) Specific target organ systemic toxicity - single exposure :

No data available.

i) Specific target organ systemic toxicity - repeated exposure :

No data available.

j) Aspiration hazard :

No data available.

11.1.2. Mixture

11.1.2.1 Information on hazard classes

a) Acute toxicity :

No data available.

b) Skin corrosion/skin irritation :

Repeated or prolonged contact with the mixture may cause removal of natural oil from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

c) Serious damage to eyes/eye irritation :

May have reversible effects on the eyes, such as eye irritation which is totally reversible by the end of observation at 21 days.

Splashes in the eyes may cause irritation and reversible damage

d) Respiratory or skin sensitisation :

May cause an allergic reaction by skin contact.

e) Germ cell mutagenicity :

No data available.

f) Carcinogenicity :

No data available.

g) Reproductive toxicant :

No data available.

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h) Specific target organ systemic toxicity - single exposure :

No data available.

i) Specific target organ systemic toxicity - repeated exposure :

No data available.

j) Aspiration hazard :

May be fatal if swallowed and enters airways.

Aspiration toxicity includes severe acute effects such as chemical pneumonia, varying degrees of pulmonary injury or death following aspiration.

11.1.2.2 Other information

Symptoms related to the physical, chemical and toxicological characteristics

Exposure to vapours from solvents in the mixture in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system.

Symptoms produced will include headaches, numbness, dizziness, fatigue, muscular asthenia and, in extreme cases, loss of consciousness.

Monograph(s) from the IARC (International Agency for Research on Cancer) :

CAS 51-03-6 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

CAS 52645-53-1 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

11.2. Information on other hazards

Endocrine disrupting properties

The mixture does not contain any substance evaluated as an endocrine disruptor with effects on human health.

SECTION 12 : ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.1. Substances

2-METHYLPROPAN-1-OL (CAS: 78-83-1)

Fish toxicity :

LC50 = 1430 mg/l
Duration of exposure : 96 h

Crustacean toxicity :

EC50 = 1439 mg/l
Species : Daphnia magna
Duration of exposure : 48 h

PIPERONYL BUTOXIDE (ISO) (CAS: 51-03-6)

Fish toxicity :

LC50 = 3.94 mg/l
Species : Cyprinodon variegatus
Duration of exposure : 96 h
OECD Guideline 203 (Fish, Acute Toxicity Test)

Crustacean toxicity :

NOEC = 0.18 mg/l
Species : Pimephales promelas
EPA OPP 72-4 (Fish Early Life-Stage and Aquatic Invertebrate Life-Cycle Studies)

EC50 = 0.51 mg/l
Species : Daphnia magna
Duration of exposure : 48 h
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

NOEC = 0.03 mg/l
M-Factor = 1
Species : Daphnia magna
Duration of exposure : 21 days

Algae toxicity :

ECr50 = 3.89 mg/l
Species : Selenastrum capricornutum
Duration of exposure : 72 h
OECD Guideline 201 (Alga, Growth Inhibition Test)

NOEC = 0.824 mg/l
Species : Selenastrum capricornutum
OECD Guideline 201 (Alga, Growth Inhibition Test)

HYDROCARBURES, C11-C13, ISOALCANES, <2% AROMATIQUES (CAS: _)

Fish toxicity :

LC50 > 1000 mg/l

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	Species : <i>Oncorhynchus mykiss</i> Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
	NOEC = 0.32 mg/l Species : <i>Oncorhynchus mykiss</i> Duration of exposure : 28 days
Crustacean toxicity :	EC50 > 1000 mg/l Species : <i>Daphnia magna</i> Duration of exposure : 48 h OECD Guideline 202 (<i>Daphnia</i> sp. Acute Immobilisation Test)
	NOEC = 1 mg/l Species : <i>Daphnia magna</i> Duration of exposure : 21 days
Algae toxicity :	ECr50 > 1000 mg/l Species : <i>Pseudokirchnerella subcapitata</i> Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)
	NOEC = 1000 mg/l Species : <i>Pseudokirchnerella subcapitata</i> Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)
PERMETHRIN (ISO) (CAS: 52645-53-1)	
Fish toxicity :	0.0001 < LC50 <= 0.001 mg/l M-Factor = 1000 1 < LC50 <= 10 mg/l Species : <i>Poecilia reticulata</i> Duration of exposure : 96 h
Crustacean toxicity :	0.0001 < EC50 <= 0.001 mg/l M-Factor = 1000 Species : <i>Daphnia magna</i>
Algae toxicity :	0.0001 < ECr50 <= 0.001 mg/l M-Factor = 1000 Duration of exposure : 72 h
2-ETHYL-1-HEXANOL (CAS: 104-76-7)	
Fish toxicity :	LC50 = 17.1 mg/l Duration of exposure : 96 h
Crustacean toxicity :	EC50 = 39 mg/l Species : <i>Daphnia magna</i> Duration of exposure : 48 h
Algae toxicity :	ECr50 = 11.5 mg/l Duration of exposure : 72 h

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

2-ETHYL-1-HEXANOL (CAS: 104-76-7)
Biodegradability :

Rapidly degradable.

ALLETHRINE (CAS: 231937-89-6)
Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

PIPERONYL BUTOXIDE (ISO) (CAS: 51-03-6)
Biodegradability :

Non-rapidly degradable.

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HYDROCARBURES, C11-C13, ISOALCANES, <2% AROMATIQUES (CAS: _)
Biodegradability : Non-rapidly degradable.

PERMETHRIN (ISO) (CAS: 52645-53-1)
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

2-METHYLPROPAN-1-OL (CAS: 78-83-1)
Chemical oxygen demand : DCO = 2600 g/kg
Biodegradability : no degradability data is available, the substance is considered as not degrading quickly.

12.3. Bioaccumulative potential

12.3.1. Substances

ALLETHRINE (CAS: 231937-89-6)
Octanol/water partition coefficient : Log Kow = 4.96

PIPERONYL BUTOXIDE (ISO) (CAS: 51-03-6)
Octanol/water partition coefficient : Log Kow = 4.8
OECD Guideline 117 (Partition Coefficient (n-octanol / water), HPLC Method)

Bioaccumulation : FBC = 290
Species : *Lepomis macrochirus* (Fish)

PERMETHRIN (ISO) (CAS: 52645-53-1)
Octanol/water partition coefficient : Log Kow >= 4.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Endocrine disrupting properties

The mixture does not contain any substance evaluated as an endocrine disruptor with environmental effects.

12.7. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2025 - IMDG 2024 [42-24] - ICAO/IATA 2026 [67]).

14.1. UN number or ID number

3082

14.2. UN proper shipping name

UN3082=ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(permethrin (iso), allethrine)

AURODIL EC

14.3. Transport hazard class(es)

- Classification :



9

14.4. Packing group

III

14.5. Environmental hazards

- Environmentally hazardous material :

**14.6. Special precautions for user**

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	9	M6	III	9	90	5 L	274 335 375 601 650	E1	3	-

Not subject to this regulation if Q <= 5 l / 5 kg (ADR 3.3.1 - DS 375)

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ	Stowage Handling	Segregation
	9	-	III	5 L	F-A. S-F	274 335 375 969	E1	Category A	-

Not subject to this regulation if Q <= 5 l / 5 kg (IMDG 3.3.1 - 2.10.2.7)

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	9	-	III	964	450 L	964	450 L	A97 A158 A197 A215	E1
	9	-	III	Y964	30 kg G	-	-	A97 A158 A197 A215	E1

Not subject to this regulation if Q <= 5 l / 5 kg (IATA 4.4.4 - DS A197)

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

Marine pollutant (IMDG 3.1.2.9):(permethrin (iso))

14.7. Maritime transport in bulk according to IMO instruments

No data available.

SECTION 15 : REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Classification and labelling information included in section 2:**

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2023/707.
- EU Regulation No. 1272/2008 amended by EU Regulation No. 2024/2564. (ATP 22)

Container information:

No data available.

Particular provisions :

No data available.

Restrictions applied under Title VIII of Regulation (EC) No. 1907/2006 (REACH):The mixture does not contain any substance restricted under Annex XVII of Regulation (EC) No. 1907/2006 (REACH):
<https://echa.europa.eu/substances-restricted-under-reach>.**Authorisations agreed under Title VII of Regulation (EC) No.1907/2006 (REACH):**The mixture does not contain any substance subject to authorisation according to Annex XIV of REACH Regulation (EC) No 1907/2006:
<https://echa.europa.eu/fr/authorisation-list>.**Ozone-depleting substances (Regulation (EC) No 2024/590).**

The mixture does not contain any substance posing a risk to the ozone layer.

Persistent organic pollutants (POP) (Regulation (EU) 2019/1021):

The mixture does not contain a persistent organic pollutant.

AURODIL EC

PIC Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (Rotterdam Convention):

The mixture is subject to the Prior Informed Consent (PIC) procedure.

The mixture contains a substance subject to the export notification and explicit consent procedure requirement.

231937-89-6

ALLETHRINE

The mixture contains a substance subject to the export notification procedure requirement.

52645-53-1

PERMETHRIN (ISO)

Explosives precursors :

The mixture does not contain any substance subject to Regulation (EU) 2019/1148 on the marketing and use of explosives precursors.

Labelling for biocidal products (Regulation (UE) n° 528/2012) :

Name	CAS	%	Product-type
ALLETHRINE	231937-89-6	30 g/l	18
PIPERONYL BUTOXIDE (ISO)	51-03-6	150 g/l	18
PERMETHRIN (ISO)	52645-53-1	250 g/l	18

Product-type 18 : Insecticides, acaricides and products to control other arthropods.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Wording of the phrases mentioned in section 3 :

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful 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.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Abbreviations and acronyms :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.
LC50 : The concentration of a test substance resulting in 50% lethality in a given period.
EC50 : The effective concentration of substance that causes 50% of the maximum response.
ECr50 : The effective concentration of substance that causes 50% reduction in growth rate.
LQ : Limited Quantity
EQ : Excepted Quantity
EmS : Emergency Schedule
E : Packing Instruction
NOEC : The concentration with no observed effect.
REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.
ATE : Acute Toxicity Estimate
BW : Body Weight
PNEC : Predicted No-Effect Concentration
STEL : Short-term exposure limit
TWA : Time-Weighted Average
TMP : French Occupational Illness table
VLE : Threshold Limit Value (exposure)
VME : Average Exposure Value.
VLRC : Indicative constraint value
ADR : Agreement concerning the international carriage of dangerous goods by road.
GHS07 : Exclamation mark
GHS08 : Health hazard
GHS09 : Environment
IATA : International Air Transport Association.
IMDG : International Maritime Dangerous Goods.
ICAO : International Civil Aviation Organisation
PBT: Persistent, bioaccumulable and toxic.
PIC: Prior Informed Consent.

AUODIL EC

POP: Persistent Organic Pollutant.

RID : Regulations concerning the International carriage of Dangerous goods by rail.

SVHC : Substances of very high concern.

WGK : Water Hazard Class.

The information contained in this safety data sheet is based on our current knowledge at the time of publication and is provided in good faith. It does not constitute any guarantee of specific product properties nor establish any contractual relationship. The user remains solely responsible for safe and compliant use of the product in accordance with current regulations.
