

SAFETY DATA SHEET

Compilation date: april 2020, revision 7.0

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

1.1 - Product identifier

Trade name: **CHIROTOX**

Italian Ministry of Health Registration no. 14748

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

Concentrated multi-purpose insecticide for environmental use emulsifiable in water. Domestic and civil use.

Use advised against: do not use in agriculture.

1.3 - Details of the supplier of the safety data sheet

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Expert technician to have drawn up the SDS: bleuline@bleuline.it

1.4 - Emergency Telephone Number

If you feel ill, contact one of the following poison control centres:

Hospital	City	Address	Postal Code	Telephone
CAV "Hospital Pediatrico Bambino Gesù"	Rome	Piazza Sant'Onofrio, 4	00165	06-68593726
Foggia Univ. Hospital	Foggia	V.le Luigi Pinto, 1	71122	0881-732326
"A. Cardarelli" Hospital	Naples	Via A. Cardarelli, 9	80131	081-7472870
CAV Policlinico "Umberto I"	Rome	V.le del Policlinico, 155	00161	06-49978000
CAV Policlinico "A. Gemelli"	Rome	Largo Agostino Gemelli, 8	00168	06-3054343
"Careggi" Hospital - Medical Toxicology Unit	Florence	Largo Brambilla, 3	50134	055-7947819
CAV - National Toxicological Information Centre	Pavia	Via Salvatore Maugeri, 10	27100	0382-24444
Niguarda Ca' Granda Hospital	Milan	Piazza Ospedale Maggiore, 3	20162	02-66101029
"Papa Giovanni XXIII" Hospital	Bergamo	Piazza OMS, 1	24127	800883300

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as a hazardous mixture in accordance with the provisions of Regulation (EC) 1272/2008 (CLP) (as amended). The product therefore requires a material safety data sheet that complies with the provisions of Regulation (EC) 1907/2006 as amended.

Any additional information regarding health and/or environmental hazards are provided in section 11 and 12 of this SDS.

2.1.1 Regulation 1272/2008 (CLP) as amended

Classification and hazard statements:

Carc. 2	H351
Eye. Irrit. 2	H319
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

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2.2. Label elements

Hazard labelling pursuant to Regulation (EC) 1272/2008 (CLP) as amended.

Hazard pictograms:



Signal word: Warning

Hazard statements:

- H351 Suspected of causing cancer.
- H319 Causes serious eye irritation.
- H400 Very toxic to aquatic life (hazardous for the aquatic environment-acute hazard, cat. 1).
- H410 Very toxic to aquatic life with long lasting effect (hazardous for the aquatic environment-chronic hazard, cat. 1).

Precautionary statements:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P273 Avoid release to the environment.
- P280 Wear waterproof gloves resistant to chemicals (EN374)/protective clothing (protective lab coats)/protect eyes using shielded safety glasses (EN166)/face protection/ protect the airways adequately (mask with type-A filter).
- P405 Store locked up.
- P501 Dispose of contents/container to hazardous or special waste collection points.

CONTAINS: TETRAMETHRIN

2.3 - Other hazards

Based on available data, the product does not contain PBT or vPvB substances in a percentage greater than 0.1 %.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Information not relevant.

3.2 Mixtures

Chemical description: Insecticide and coformulants in mixture.

Contains:

CHEMICAL NAME	CONC.	CLASSIFICATION 1272/2008 (CLP)
PIPERONYL BUTOXIDE CAS 51-03-6 EINECS 200-076-7 EU INDEX // Reg n° : 01-2119537431-46-0000	5%	Aquatic Acute 1 H400 M=1 Aquatic Chronic 1 H410 M=1
TETRAMETHRIN CAS 7696-12-0 EINECS 231-711-6 EU INDEX // Reg n° : //	5%	Carc. 2 H351 Acute Tox. 4 H302 STOT SE 2 H371 Aquatic Acute 1 H400 M=100 Aquatic Chronic 1 H410 M=100
ETHOXYLATED ALCOHOLS, C12-C15, linear and branched CAS 106232-83-1 EINECS // EU INDEX // Reg n° : //	<3%	Acute Tox. 4 H302 Eye Dam. 1 H318

The full text of the hazard statements (H) is provided in section 16 of the SDS.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General measures:

In cases of doubt, or if symptoms persist, seek medical care, by providing the information contained in the label and in this SDS. In the case of accident, first aid must be carried out by trained personnel to prevent further complications or damage to the injured person.

Eye exposure:

Remove contact lenses, if present and easy to do. Wash thoroughly with possibly running water, with eyelids open, for at least 15'; therefore protect your eyes with sterile gauze or a clean, dry handkerchief. SEEK MEDICAL AID. Do not use eye drops or ointments of any kind before visiting or consulting an ophthalmologist.

Skin exposure:

Remove/Take off immediately all contaminated clothing. Wash body parts that have come into contact with the product with plenty of soap and water.

Inhalation:

Take outdoors and leave to rest. If the problem persists, seek medical advice.

Ingestion:

Seek immediate medical advice and show the SDS. Do not induce vomiting in order to avoid the risk of aspiration through the airways.

4.2 Most important symptoms and effects, both acute and delayed

For symptoms and effects due to the substances contained, see chapter 11.

4.3 Indication of any immediate medical attention and special treatment needed

Symptomatic treatment and control of vital functions.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Dry powder, CO₂, water mist, foam.

Unsuitable extinguishing media: Full water jet. Water is not effective to extinguish the fire, but it can be used to cool the closed containers exposed to the flame, preventing bursts and explosions.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards: In the event of fire, emission of toxic gases and irritant fumes. Overpressure may be created in containers exposed to fire with the danger of explosion.

5.3 Advice for firefighters

Protective equipment:

Normal garments for firefighting, such as self-contained open-circuit compressed air breathing apparatus (EN 137), fire retardant clothing (EN469), protective gloves for firefighters (EN 659) and boots for firefighters (HO A29 or A30).

Special Firefighting Procedures: Contain the spread. Stay upwind. Avoid breathing fumes. Cool containers exposed to fire with water mist. Avoid that extinguishing water is dispelled into the environment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Stop the leak if there is no danger. Wear appropriate protective devices (including the personal protective equipment referred to in section 8 of the material safety data sheet) to prevent contamination of skin, eyes and clothing. These instructions are applicable to both non-emergency personnel and emergency responders.

6.2 Environmental precautions

Keep the product away from drains, rivers and sea waters to avoid environmental pollution (if need be, inform the competent authorities).

6.3 Methods and material for containment and cleaning up

Soak up the spilled product in a suitable container. Assess the compatibility of the container to use with the product, referring to section 10. Absorb the remaining product with inert absorbent.

Ventilate the area affected by the leak adequately. Check for incompatibility with the material of the containers in section 7. The disposal of the contaminated material must be done in accordance with the provisions under point 13.

6.4 Reference to other sections

Information concerning the individual protection and disposal are provided in sections 8 and 13.

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7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle the product after consulting all the other sections of this safety data sheet. Avoid dispelling the product in the environment. Do not eat, drink or smoke during use. Take off contaminated clothing and protective equipment before access to areas where food is eaten.

7.2 Conditions for safe storage, including any incompatibilities

Keep in closed original containers, away from food and drinks, and in a place not accessible to children and pets. Possibly store at a temperature between 5°C and 30°C.

7.3 Specific end use(s)

Information not available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

In the workplace environment there are no occupational exposure thresholds and/or biological thresholds for the active ingredient in the preparation and for coformulants with hazard classification.

However, it should be noted that there are thresholds for pyrethrum both in Italian Legislative Decree No. 81/2008 as amended, Annex XXXVIII (TLW-TWA of 1 mg/m³ for pyrethrum purified of sensitising lactones) and in ACGIH (TLV-TWA of 5 mg/m³). For further information, see section 16 (Notes). In the case of occupational exposure to the preparation, wear personal protective equipment listed below.

8.2 Exposure controls

General precautions:	Use the mixture according to the instructions contained in this safety data sheet. Use personal protective equipment listed in this section.
Respiratory protection:	In scarcely ventilated environments in which it is deemed that high concentrations of mixture may be present, protect the airways adequately (mask with type-A filter).
Hand protection:	Use waterproof gloves resistant to chemicals (EN 374).
Eye protection:	Use shielded safety glasses in case of possible contact with eyes. Ensure the availability of showers and eye washes to be used in case of emergency.
Skin protection:	Wear protective lab coats.

Environmental exposure controls

Emissions from manufacturing processes, including those from ventilation equipment, should be controlled for the purposes of compliance with regulations on environmental protection. Product residues must not be emptied without control in waste water or into watercourses.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Colour:	Amber
Odour:	Typical
Odour threshold:	n/a
pH:	n/a
Melting or freezing point:	n/a
Initial boiling point:	n/a
Boiling range:	n/a
Flash point:	> at 100 °C (closed cup)
Evaporation rate:	n/a
Flammable solids and gases:	not highly flammable
Lower flammable limit:	n/a
Upper flammable limit:	n/a
Lower explosive limit:	n/a
Upper explosive limit:	n/a



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Vapour pressure:	n/a
Vapour density:	n/a
Relative density:	1.085 g/ml
Solubility:	Forms emulsion in water
Partition coefficient: n-octanol/water:	n/a
Autoignition temperature:	n/a
Decomposition temperature:	n/a
Viscosity:	n/a
Explosive properties:	n/a
Oxidising properties:	n/a

9.2 Other information

Information not available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

There are no particular dangers of reaction with other substances under normal conditions of use.

10.2 Chemical stability

Stable under normal conditions of use, and storage.

10.3 Possibility of hazardous reactions

None known.

10.4 Conditions to avoid

Avoid overheating, electrostatic charges and any source of ignition.

10.5 Incompatible materials

Information not available.

10.6 Hazardous decomposition products

The thermal decomposition causes the formation of hazardous compounds.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Mechanism of action of a.i.: **tetramethrin** (pyrethroid) acts on the central and peripheral nervous system at the level of neuronal membranes, resulting in the closing of sodium channels.

Inhalation: In the case of long exposure, irritation of the respiratory system, headache, nausea, drowsiness, and dizziness.

Ingestion: May cause irritation of the digestive mucous membranes, hypersalivation, nausea, vomiting, diarrhoea, abdominal pain, depression of the central nervous system, muscle spasms, seizures, shortness of breath; the ingestion of liquid can cause the formation of droplets that, entering into the lungs, can cause chemical pneumonia.

Skin contact: In the case of frequent and prolonged contact, persistent irritation and dermatitis, cracking and dryness of skin.

Eye contact: Redness and conjunctival irritation.

Toxicological data: Active ingredients: **Tetramethrin:** LD₅₀ acute oral >2000 mg/kg (rat); LD₅₀ rat >2000 mg/kg (dermal acute); LC₅₀ rat (inhalation) >5,63 mg/l. **Piperonyl butoxide:** LD₅₀ acute rat 4570 mg/kg (oral); LD₅₀ acute rabbit >2000 mg/kg (dermal); LC₅₀ rat >5,9 mg/l (4h) (inhalation).

12. ECOLOGICAL INFORMATION

The mixture is highly toxic to aquatic organisms and may cause long-term negative effects on the aquatic environment.

12.1 Toxicity

Active ingredients: **Tetramethrin:** LC₅₀ fish 0,033 mg/l (96h); EC₅₀ Daphnia magna 0,47 mg/l (48h); EC₅₀ algae 1,36 mg/l (72h). **Piperonyl butoxide:** LC₅₀ fish 3,94 mg/l (96h); EC₅₀ Daphnia magna 0,51 mg/l (48h); EC₅₀ algae 3,89 mg/l (72h).

12.2 Persistence and biodegradability

Information not available.

12.3 Bioaccumulation potential

Information not available.

12.4 Mobility in soil

Information not available.

12.5 Results of PBT and vPvB assessment

Based on available data, the product does not contain PBT or vPvB substances in a percentage greater than 0.1 %.

12.6 Other adverse effects

Information not available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

General considerations:

Recover if possible. Operate in accordance with existing local and national provisions. Containers, even if completely emptied, must not be dispersed in the environment. If they contain residues, they must be classified, stored and sent to a suitable treatment plant. For non-professional use, the completely empty container can be eliminated with household waste.

Classification:

The classification of waste is an obligation of the producer thereof. Possible EWC codes: 07 04 13 (solid wastes containing dangerous substances), 16 03 05 (organic wastes containing dangerous substances).

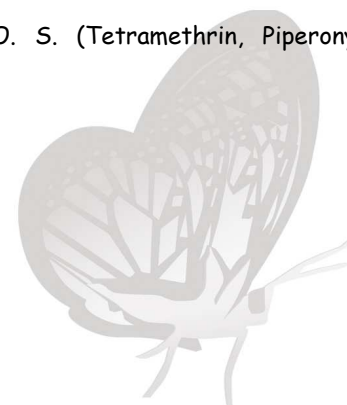
14. TRANSPORT INFORMATION

14.1. UN Number

ADR/RID, IMDG and IATA: 3082

14.2. UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tetramethrin, Piperonyl butoxide)
 IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N. O. S. (Tetramethrin, Piperonyl butoxide)
 IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N. O. S. (Tetramethrin, Piperonyl butoxide)



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14.3. Transport hazard classes

ADR/RID: Class: 9 Label: 9
 IMDG: Class: 9 Label: 9
 IATA: Class: 9 Label: 9



14.4. Packing group

ADR/RID, IMDG and IATA: III

14.5. Environmental hazards

ADR/RID: Hazardous for the environment.
 IMDG: Marine Pollutant.
 IATA: Hazardous for the environment.



14.6. Special precautions for user

ADR/RID:	HIN - Kemler: 90	Limited Quantities 5 L	Tunnel restriction code (E)
	Special Provision: -		
IMDG:	EMS: F-A, S-F	Limited Quantities: 5 L	
IATA:	Cargo:	Maximum Quantity: 450 L	Packaging Instructions: 964
	Pass.:	Maximum Quantity: 450 L	Packaging Instructions: 964
	Special instructions:	A97, A158, A197	

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
 Information not relevant.

15. REGULATORY INFORMATION

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

Seveso Category: 9 i)

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006:

Product: Point 3

Substances in Candidate List (Art. 59 REACH):

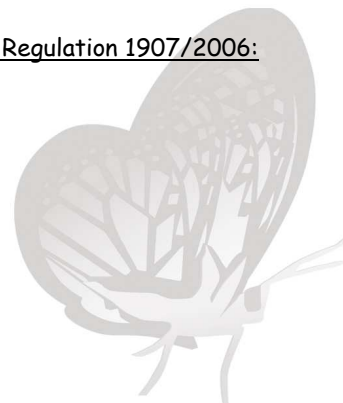
None

Substances subject to authorisation (Annex XIV REACH):

None

Substances subject to export notification Reg. (EC) 649/2012:

None



Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Health controls:

Information not available.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for the mixture and the substances contained in it.

16. OTHER INFORMATION**General considerations:**

The information provided in this safety data sheet corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. Unless otherwise specified, it applies to the product as such and in conformity with specifications. In the case of combinations or mixtures thereof, make sure that no new hazard may arise. However, it is responsibility of the user to make sure that the information is suitable and complete in relation to the particular use to be made of the product. It does not relieve the user of the product from complying with all the legislative, administrative and regulatory provisions that apply to the product, to the health and safety of workers and to environmental protection. For more information regarding the mixture, refer to the label thereof placed on the package

Revision Number:

7.0.

Completion Date:

April 2020.

Text of the hazard statements (H) referred to in sections 2-3 of the SDS:

Carc. 2	Carcinogenicity, category 2
Acute Tox. 4	Acute toxicity, category 4
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Serious eye irritation, category 2
STOT SE 2	Specific toxicity for target organ - single exposure, category 2
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity category 1
Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity category 1
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H371	May cause damage to organs.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Legend:

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- CAS NUMBER: Chemical Abstracts Service number
- EC50: Concentration that gives effect to 50% of the population subject to testing
- EC NUMBER: Identification Number in ESIS (European Inventory of Existing Commercial Chemical Substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived no effect level
- EmS: Emergency Schedule
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- IATA DGR: Regulation for dangerous goods transport of the International Air Transport Association
- IC50: Inhibitory concentration for 50% of the population subject to testing

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- IMDG: International maritime code for the transport of dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identification number in Annex VI of the CLP
- LC50: Lethal concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic according to REACH
- PEC: Predicted environmental concentration
- PEL: Predicted exposure level
- PNEC: Predictable no-effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation for the international carriage of dangerous goods by train
- TLV: Threshold limit value
- TLV CEILING: Concentration that must not be exceeded at any time during working exposure.
- TWA STEL: Short-term exposure limit
- TWA: Weighted mean exposure limit
- VOC: Volatile organic compound
- vPvB: Very persistent and very bioaccumulative according to REACH
- WGK: Water hazard class (Germany).

Reference Regulations

The provisions set out by the following European regulations have been complied with:

- Regulation (EC) 1272/2008 of the European Parliament (CLP);
- Directive 98/24/EC (protection of the health and safety of workers from the risks related to chemical agents at work) transposed by Legislative Decree 81/2008;
- Regulation (EC) 1907/2006 (REACH);
- Regulation (EC) 790/2009 of the European Parliament (I Atp. CLP);
- Regulation (EC) 453/2010 of the European Parliament;
- Regulation (EU) 2015/830;
- GESTIS substances database - IFA (Institute für Arbeitsschutz der Deutschen Gesetzlichen Unfallversicherung).

Notes (paragraph 8):

TLV-TWA (Threshold Limit Value - Time Weighted Average): weighted limit values in 8 hours. **TLV-STEL** (Threshold Limit Value - Short Time Exposure Limit), maximum allowed value for short exposures.

Section 8 refers to ACGIH (American Conference of Governmental Industries Hygienists). The data relating to the threshold limit values (TLV-TWA) are taken from the supplement to Vol. 3, No. 1 of the Journal of Industrial Hygienists (AIDII) published in 2014, and refer to 2014 ACGIH values.

Changes with respect to the previous version

Changes were made to the following sections:

01 / 02 / 03 / 06 / 07 / 11 / 12 / 16.

Other information:

This sheet was drawn up in collaboration with Ecol Studio S.p.A., with operative office at No. 99 of Via Rivani, BOLOGNA (Tel: (+39) 051 5878211).



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