SAFETY DATA SHEET

Compilation date: april 2023, revision 9

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

1.1 - Product identifier

Trade name: PERTEX

Italian Health Ministry Authorization no. IT/2023/00856/MRP

UFI: QWD9-T0DP-3007-QV11

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

Insecticide in microemulsion. For professional use. Use advised against: do not use in agriculture.

1.3 - Details of the supplier of the safety data sheet

BLEU LINE S.r.I. Via Virgilio, 28 - Z.I. Villanova 47122 Forlì (FC) Italy Tel (+39) 0543.754430 Fax (+39) 0543.754162 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	CAP	Phone
Az. Osp. Univ. Foggia	Foggia	V.le Luigi Pinto, 1	71122	0881-732326
Az. Osp. "A. Cardarelli"	Napoles	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
Az. Osp. "Careggi" U.O. Tossicologia Medica	Florence	Largo Brambilla, 3	50134	055-7947819
CAV Centro Nazionale di Informazione Tossicologica	Pavia	Via Salvatore Maugeri, 10	27100	0382-24444
Osp. Niguarda Ca' Granda	Milan	Piazza Ospedale Maggiore, 3	20162	02-66101029
Azienda Ospedaliera Papa Giovanni XXIII	Bergamo	Piazza OMS, 1	24127	800883300
Azienda Ospedaliera Integrata Verona	Verona	Piazzale Aristide Stefani, 1	37126	800011858

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

The product is classified as a hazardous mixture in accordance with 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:

Skin Sens. 1 H317
Aquatic Acute 1 H400
Aquatic Chronic 1 H410

2.2. Label elements

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

Hazard pictograms:





Signal words: Warning Hazard statements:

H317 May cause an allergic skin reaction (skin sensitisation, cat. 1).

H400 Very toxic to aquatic life (hazardous for the aquatic environment-acute hazard, cat. 1).

H410 Very toxic to aquatic life with long lasting effects (hazardous for the aquatic environment-chronic

hazard, cat. 1).

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

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of the reach of children. P261 Avoid breathing vapours/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves/protective clothing.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

P391 Collect spillage.

P501 Dispose of contents to hazardous or special waste collection points.

CONTAINS: PERMETHRIN

2.3 - Other hazards

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Information not relevant.

3.2 Mixtures

<u>Chemical description:</u> Insecticide and coformulants in mixture.

Contains:

CHEMICAL NAME	CONC.	Classification 1272/2008 (CLP)	
PERMETHRIN CAS 52645-53-1 EINECS 258-067-9 EU INDEX 613-058-00-2 Reg no.: not subject	2,79-3,00%	Acute Tox. 4 H302 Acute Tox. 4 H332 Skin Sens. 1 H317 Aquatic Acute 1 H400 M=1000 Aquatic Chronic 1 H410 M=1000 ATE oral 500 mg/kg, ATE (inhalation vapours) 11 mg/l	
IPERONYL BUTOXIDE AS 51-03-6 INECS 200-076-7 U INDEX // eq n°: 01-2119537431-46-0000		Aquatic Acute 1 H400 M=1 Aquatic Chronic 1 H410 M=1	

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.

Remove contact lenses, if present and easy to do. Wash thoroughly with possibly running Eye exposure:

> 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.

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

Seek immediate medical advice and show the SDS. Do not induce vomiting in order to Ingestion:

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.

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6.4 Reference to other sections

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

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Do not eat, drink or smoke. Wear suitable protective clothes (see section 8). After handling, wash with water and soap. 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 $5^{\circ}C$ and $30^{\circ}C$.

7.3 Specific end use(s)

Information not available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

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: Professionals should wear protective coveralls and protective gloves.

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

Property	Value	Informations
Physical state	liquid	
Colour	colourless	
Odour	characteristic	
Melting or freezing point	Not available	Method:CIPAC 39.2
		Reason for missing data: No change of state at 0°C for
		48 hours.
Initial boiling point	Not available	
Flammability	Not flammable	No typical flammability phenomena was observed up to
·		130°C. Thus the preparation is classified as non
		Flammable (Method UE A.9)

Lower explosive limit Not applicable DCS screening:

Upper explosive limit Not applicable Total exothermic picks is 160.751 J/g, which is below

the trigger value of 300 J/g. Thus the formulation is

not candidate for classification as explosive.

(Manual of Tests and Criteria ST/SG/AC.10/11/Rev.5 -

Part III, Appendix 6, Section 3)

Flash point > 100 °C

Autoignition temperature 364 °C Method EU A.15

Decomposition temperature Not applicable

pH 6.4 20 °C (undiluted) CIPAC MT 75 OECD 122

Kinematic viscosity 476 cSt (mm2/s) at 20°C OECD Guideline 114 CIPAC MT 192

(rotational viscometer)

Dynamic viscosity 497 cP (mPa*s) at 20°C OECD Guideline 114 CIPAC MT 192

(rotational viscometer)

Solubility Not available Remark: it forms microemulsion in water

Partition coefficient: not applicable

n-octanol/water:

Vapour pressure 2,11×10⁻⁷ hPa

Density and/or relative density 1,0447 g/ml 20°C CIPAC MT 3.2, OECD 109, EU Method A.3

Relative vapour density
Particle characteristics
Not available
Not applicable

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Information not available.

9.2.2 Other safety characteristics

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.: Permethrin (pyrethroid) acts on the central and peripheral nervous system at the level of

neuronal membranes, resulting in the closing of sodium channels.

In the case of long exposure, irritation of the respiratory system, headache, nausea, 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.

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In the case of frequent and prolonged contact, persistent irritation and dermatitis.

Eye exposure: Redness and conjunctival irritation, corneal damages.

Toxicological data:

Permethrin: Acute oral LD₅₀ (rat) 664 mg/kg; ATE 500 mg/kg; Acute dermal LD₅₀ (rat) >2000 mg/kg; Inhalation LC₅₀ (rat, 4h) 4,638 mg/l; ATE (inhalation vapours) 11 mg/l. **Piperonyl butoxide:** Acute oral LD₅₀ (rat) 4570 mg/kg; Acute dermal LD₅₀ (rabbit) >2000 mg/kg; Inhalation LC ₅₀ (rat, 4h) >5,9 mg/l.

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Skin sensitizer.

Respiratory sensitisation

Information not available

Skin sensitisation

Information not available

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

Harmful effects on sexual function and fertility: Information not available

Harmful effects on the development of offspring: Information not available

Effects on breastfeeding or through breastfeeding: Information not available

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs: information not available Exposure route: information not available

STOT - REPEATED EXPOSURE

Does not meet the classification criteria for this hazard class

Target organs: information not available Exposure route: information not available

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on human health object of evaluation.

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: Permethrin: LC_{50} (fish) 0,001-0,009 mg/l (96h); EC_{50} Daphnia magna 0,00064 mg/l (48h); Piperonyl butoxide: LC_{50} (fish) 3,94 mg/l (96h); EC_{50} (Daphnia magna) 0,51 mg/l (48h); EC_{50} (alga) 3,89 mg/l (72h).

12.2 Persistence and degradability

Hardly biodegradable.

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 Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with effects on environment object of evaluation.

12.7 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.

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 or ID number

ADR/RID, IMDG and IATA: 3082

14.2. UN proper shipping name

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

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N. O. S. (Permethrin, Piperonyl butoxide)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N. O. S. (Permethrin, Piperonyl butoxide)

14.3. Transport hazard class(es)

ADR/RID: Class

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 Tunnel restriction

Quantities 5 L code (E)

Special Provision: -

IMDG: EMS: F-A, S-F

Quantities 5 L

Limited

IATA: Cargo: Maximum Packaging

quantity: 450 L Instructions: 964

Instructions: 964

Pass.: Maximum Packaging

quantity: 450 L

Special instructions: A97, A158,

A197

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant.

15. REGULATORY INFORMATION

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

Seveso Category: E1

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 Req. (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

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

Acute Tox. 4 Acute toxicity, category 4

Aquatic Chronic 1 Hazardous to the acquatic environment, chronic toxicity category 1
Aquatic Acute 1 Hazardous to the aquatic environment, acute toxicity category 1

Skin Sens. 1 Skin sensitisation, category 1

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H332 Harmful if inhaled.
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) 1907/2006 (REACH)
- Regulation (EC) 1272/2008 of the European Parliament (CLP)
- Regulation (EU) 2020/878 (All. II Regulation REACH)
- Regulation (EC) 790/2009 of the European Parliament (I Atp. CLP)
- Regulation (EU) 286/2011 of the European Parliament (II Atp. CLP)
- Regulation (EU) 618/2012 of the European Parliament (III Atp. CLP)
- Regulation (EU) 487/2013 of the European Parliament (IV Atp. CLP)
- Regulation (EU) 944/2013 of the European Parliament (V Atp. CLP)
- Regulation (EU) 605/2014 of the European Parliament (VI Atp. CLP)
- Regulation (EU) 2015/1221 of the European Parliament (VII Atp. CLP)
- Regulation (EU) 2016/918 of the European Parliament (VIII Atp. CLP)
- Regulation (EU) 2016/1179 (IX Atp. CLP)
- Regulation (EU) 2017/776 (X Atp. CLP)
- Regulation (EU) 2018/669 (XI Atp. CLP)
- Regulation (EU) 2019/521 (XII Atp. CLP)
- Delegated Regulation (EU) 2018/1480 (XIII Atp. CLP)
- Regulation (EU) 2019/1148
- Delegated Regulation (EU) 2020/217 (XIV Atp. CLP)
- Delegated Regulation (EU) 2020/1182 (XV Atp. CLP)
- Delegated Regulation (EU) 2021/643 (XVI Atp. CLP)
- Delegated Regulation (EU) 2021/849 (XVII Atp. CLP)
- The Merck Index. 10th Edition
- Handling Chemical Safety
- INRS Fiche Toxicologique (toxicological sheet)
- Patty Industrial Hygiene and Toxicology
- N.I. Sax Dangerous properties of Industrial Materials-7, 1989 Edition
- website IFA GESTIS
- website ECHA Agency
- Database of SDS models for chemicals Health Ministry and ISS (Istituto Superiore di Sanità) Italy

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.

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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: $01\ /\ 02\ /\ 03\ /\ 05\ /\ 08\ /\ 09\ /\ 11\ /\ 12\ /\ 14\ /\ 15\ /\ 16.$

