
SECTION1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product code : FLASH 24 TIGER MOSQUITOES AND FLYING BUGS 400ml
Trades code : 00223

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

Insecticide

Private households (= general public = consumers)[SU21], Public domain (administration, education, entertainment, services, craftsmen)[SU22]

Uses advised against

Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

Bergen s.r.l.
Via Roma, 90
37060 Castel d'Azzano (Verona)
Tel. +39 045 512090 - 045 518009
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Produced by
BERGEN s.r.l.
Via Roma, 90
37060 Castel d'Azzano (Verona)

1.4. Emergency telephone number

Centro Antiveneni Ospedale Riuniti (BG) - 800.883300 24 ore su 24

SECTION2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification according to Directive 1999/45/EEC:

Classification:

F+; R12 N; R50/53

Nature of special risks attributed:

R12 - Extremely flammable.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The product ignites easily even at temperatures below 10 °C.

The repeated inhalation of vapors can cause drowsiness and giddiness.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 ° C.

The aerosol containers overheated burst and can be ejected with violence from a distance and can take place a dangerous mechanism for the fire.

The product is dangerous for the environment as it is very toxic to aquatic organisms following acute exposure.

The product can cause long-term adverse effects in the aquatic environment, being hardly degradable and / or bioaccumulative

2.2. Label elements

Labeling according to Directive (EC) No 1999/45:

Provided symbols:

- F+ - Extremely flammable
- N - Harmful for the Environment



Attributed risk:

- R12 - Extremely flammable.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Precautionary statements:

- S2 - Keep out of the reach of children.
- S16 - Keep away from sources of ignition — No smoking.
- S23 - Do not breathe spray
- S29/56 - Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point.
- S51 - Use only in well-ventilated areas.
- S61 - Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains:

Permethrin: It can produce an allergic reaction.

WARNINGS :

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 ° C. Do not pierce or burn, even after usage. Do not spray on a naked flame or incandescent material. Keep away from sources of ignition - No smoking. Keep out of reach of children.

2.3. Other hazards

The substance / mixture does NOT contains substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

No information on other hazards

SECTION3. Composition/information on ingredients
3.1 Substances

Irrelevant

3.2 Mixtures

Refer to paragraph 16 for full text of risk phrases and hazard statements

mixture: n-Butane + i-Butane + Propane contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8)

Substance	Concentration	Classification	Index	CAS	EINECS	REACH
mixture: n-Butane + i-Butane + Propane	> 50 <= 100%	F+; R12 Flam. Gas 1, H220; Liq. Gas, H280	649-199-00-1	68476-40-4	200-681-4	01- 2119486557- 22
propan-2-ol	> 5 <= 10%	F; R11 Xi; R36 R67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	603-117-00-0	67-63-0	200-661-7	01- 2119457558- 25-XXXX
Piperonyl butoxide	> 0,1 <= 1%	N; R50/53 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	N.A.	51-03-6	200-076-7	01- 2119537431- 46-0000

Substance	Concentration	Classification	Index	CAS	EINECS	REACH
Eucalyptus oil	> 0,1 <= 1%	R10 Xi; R43 N; R51/53 Xn; R65 Flam. Liq. 3, H226; Asp. Tox. 1, H304; Skin Sens. 1, H317; Aquatic Chronic 2, H411	N.A.	8000-48-4	283-406-2	N.A.
permethrin	< 0,1%	Xn; R20/22 Xi; R43 N; R50/53 Acute Tox. 4, H302; Skin Sens. 1, H317; Acute Tox. 4, H332; Aquatic Acute 1, H400 (M-factor1000); Aquatic Chronic 1, H410 (M-factor1000)	613-058-00-2	52645-53-1	258-067-9	N.A.
Tetramethrin	< 0,1%	N; R50/53 Aquatic Acute 1, H400; Aquatic Chronic 1, H410	N.A.	7696-12-0	231-711-6	N.A.

SECTION4. First aid measures

4.1. Description of first aid measures

Inhalation:

Air the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

Direct contact with skin (of the pure product):

Wash thoroughly with soap and running water.

Direct contact with eyes (of the pure product):

Wash immediately and thoroughly with running water for at least 10 minutes.

Ingestion:

Not hazardous. It's possible to give activated charcoal in water or liquid paraffin medicine

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

No data available.

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

If you experience harmful symptoms, contact a physician immediately.

SECTION5. Firefighting measures

5.1. Extinguishing media

Advised extinguishing agents:

Water spray, CO₂, foam, dry chemical, depending on the materials involved in the fire.
CO₂ or dry powder extinguisher

Extinguishing means to avoid:

Direct jets of water

5.2. Special hazards arising from the substance or mixture

The aerosol containers overheated burst and can be ejected with violence from a distance and can take place a dangerous mechanism for the fire.

Manufactured under pressure in sealed metal container (test pressure 15 bar max). Cool containers with water spray trying to remove them from the fire. The aerosol containers can be overheated and burst violently ejected from a distance (protect the head using a safety helmet).

5.3. Advice for firefighters

Use protection for the breathing apparatus

Safety helmet and full protective suit.

The spray water can be used to protect the people involved in the extinction

You may also use selfrespirator, especially when working in confined and poorly ventilated area and if you use halogenated extinguishers (Halon 1211 fluobrene, Solkan 123, NAF, etc...)

Keep containers cool with water spray

SECTION6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke

Leave the surrounding area recalling that any overheating could project the cylinder at a considerable distance.

Wear gloves and protective clothing

6.1.2 For emergency responders:

Given the tightness of aerosol, it is unlikely that the spillage may occur.

However if some container is damaged likely to cause a loss, insulate the tank in question by bringing it to open air or covering it with inert material and fuel (eg sand, earth, vermiculite) and having the care to avoid any point of ignition that might pose a serious risk of fire.

Wear gloves and protective clothing

Eliminate all unguarded flames and possible sources of ignition. No smoking.

Provision of sufficient ventilation.

Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions

Contain spill

Inform the competent authorities.

Discharge the remains in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 For containment:

Recover the product for reuse, if possible, or the removal.

6.3.2 For cleaning up:

After wiping up, wash with water the area and materials involved

6.3.3 Other information:

None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information

SECTION7. Handling and storage

7.1. Precautions for safe handling

Avoid contact and inhalation of vapors. See also paragraph 8 below.

At work do not eat or drink.

Do not smoke at work

Vapors are heavier than air and may spread close to the ground and form explosive mixtures with air. Prevent formation of flammable or explosive concentrations in the air.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 ° C.

Do not pierce or burn, even after the use. Do not spray on flame or incandescent objects. Use in adequately ventilated areas.

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabeled containers.

Keep containers upright and safe by avoiding the possibility of falls or collisions.

Pressurized container. Store in a ventilated place, in original packaging away from heat and sunlight.

Keep away from open flames, sparks and heat sources. Avoid direct sunlight exposure.

7.3. Specific end use(s)

Private households (= general public = consumers):

Store in cool and dry places.

Public domain (administration, education, entertainment, services, craftsmen):

Handle with care.

Store in ventilated place away from heat sources,

Keep the container tightly closed.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

No data available on the mixture.

Related to contained substances:

mixture: n-Butane + i-Butane + Propane

TLV-TWA (8h) 1000 ppm ACGIH (2006 Edition)

propan-2-ol

TLV: 200 ppm as TWA 400 ppm as STEL A4 (not classifiable as a human carcinogen); (ACGIH 2004).

MAK: 200 ppm 500 mg/m³

Piperonyl butoxide

No data available.

Eucalyptus oil

No data available

permethrin

Exposure limits: ADI (acceptable toxicological levels): 0.05 mg/kg bw (JMPR 1999)

Tetramethrin

No specific limit (STEL, TWA, etc. ...) was officially established for the substance.

A computed value, with a safety factor of 100, as follows:

AOEL (acceptable exposure value pr the operator): 0.5 mg/kg bw/day

A recommended value, approved by the Health and Safety Executive (HSE/UK 2005), as follows:

AOEL (acceptable exposure value pr the operator): 5 mg/m³ air

(ISO/8:0 with the TMP reference period (time-weighted average))

8.2. Exposure controls

Appropriate engineering controls:
 Private households (= general public = consumers):
 Open with caution. Close the container immediately after its use.
 Adopt the appropriate protective measures.

Public domain (administration, education, entertainment, services, craftsmen):
 Open with caution. Close the container immediately after its use.
 Adopt the appropriate protective measures.

Individual protection measures:

(a) Eye / face protection
 Wear safety goggles to EN-166

(b) Skin protection

(i) Hand protection
 Not needed for normal use.

(ii) Other
 Avoid direct contact with the skin
 Better is to use cotton antistatic clothing

(c) Respiratory protection
 Work in a sufficiently ventilated to avoid inhaling the product.

(d) Thermal hazards
 No hazard to report

Environmental exposure controls:
 Use according to good working practices to avoid pollution into the environment.

SECTION 9. Physical and chemical properties
9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Appearance	Pressure vessel with base and liquefied gases	
Odour	Characteristic	
Odour threshold	not determined	
pH	irrelevant	
Melting point/freezing point	not determined	
Initial boiling point and boiling range	not determined	
Flash point	not determined	ASTM D92
Evaporation rate	irrelevant	
Flammability (solid, gas)	not determined	
Upper/lower flammability or explosive limits	per il propellente: LEL 1,8% - UEL 9,5%	
Vapour pressure	not determined	
Vapour density	not determined	
Relative density	0,75-0,80 a 20 °C	
Solubility	Insoluble in water	

Physical and chemical properties	Value	Determination method
Water solubility	Insoluble	
Partition coefficient: n-octanol/water	not determined	
Auto-ignition temperature	405 °C	
Decomposition temperature	not determined	
Viscosity	not determined	
Explosive properties	Lower explosion limit of the propellant: 1.8%	
Oxidising properties	not determined	
Container volume	400 ml	
Product volume	300 ml	
Pressure to 20°C	3.5 - 4 bar	
Deformation pressure	not determined	
Burst pressure of the container	not determined	
Flash point of liquid phase	not determined	
Propellant inflammability	below 0 °C	

9.2. Other information

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

No reactivity hazards

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

There are no hazardous reactions

10.4. Conditions to avoid

Take precautionary measures against static discharges.

The aerosol product is stable for a period of more than 36 months and under normal storage conditions may not be dangerous reactions because the container is hermetically sealed.

Avoid contact with oxidizing materials. The product may ignite.

Avoid heat, open flames, sparks and hot surfaces.

In order to avoid that the metal of the container can deteriorate, keep away from acid reaction products or basica.

Attention to heat because at temperatures exceeding 50 °C there is an increase in pressure inside the container such as to reach the deformation of the tank until the outbreak.

10.5. Incompatible materials

Incandescent bodies, oxidizing materials.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11. Toxicological information

11.1. Information on toxicological effects

No toxicological tests have been performed on the mixture.

- (a) acute toxicity: not applicable
- (b) irritation: not applicable
- (c) corrosivity: not applicable
- (d) sensitisation: not applicable
- (e) repeated dose toxicity: not applicable
- (f) carcinogenicity: not applicable
- (g) mutagenicity: not applicable
- (h) toxicity for reproduction: not applicable

Related to contained substances:

mixture: n-Butane + i-Butane + Propane

Toxicity:

Not-toxic but simple suffocating. Gaseous state has no effect on the skin and mucous membranes. The vapours may cause narcotic effects.

Irritating power:

The contact of the liquid product on the skin causes cold sores.

There is no evidence relating to the following effects: Chronic toxicity - Sensitization - Mutagenesis - Teratogenesis - Carcinogenesis.

propan-2-ol

LD50 (oral): 4710 mg/kg Rat

LC50 (inhalation): 72.6 mg/l/4:0 Rat

LD50 (Dermal): 12800 mg/kg Rat

Piperonyl butoxide

Acute oral toxicity: LD50 (rat): 4570 mg/kg bw (male); 7220 mg/kg bw (female).

Acute skin toxicity: LD50 (rabbit): > 2000 mg/kg bw.

Acute vapour inhalation toxicity: LC50 (rat): > 5.9 mg/l (4:0).

Corrosion: Not corrosive.

Skin and eye irritation: not irritating.

Sensitization: Not sensitizing.

Long-term toxicity: Not teratogenic, not mutagenic, not carcinogenic, not toxic to reproduction.

Eucalyptus oil

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals: Acute oral toxicity (LD50): 2480 mg/kg [Rat].

Chronic Effects on Humans: The substance is toxic to lungs.

Other Toxic Effects on Humans:

Very hazardous in case of skin contact (irritant), of inhalation.

Hazardous in case of skin contact (permeator), of ingestion.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

permethrin

Acute toxicity

Oral toxicity: LD50 rat: > 2000 mg/kg.

Toxicity, dermal, LD50 rat: > 2000 mg/kg.

Toxicity, inhalation, LC50 rat = 0.45 mg/l.

Corrosion/irritation.
Irritating, Rabbit.
Eye irritation.
Irritating, Rabbit.
Respiratory sensitization: N.A.
Skin sensitizer: Guinea Pig, not sensitized.
Long-term studies:
Teratogenicity: rat, there aren't any teratogenic effects.
Mutagenicity: Non-mutagenic.
Carcinogenicity: rat, not carcinogenic.
Toxicity for reproduction: rat, Non-toxic for reproduction.

Tetramethrin
Acute oral toxicity: rat LD50 > 2000 mg/kg
Acute dermal toxicity: LD50 rat > 2000 mg/kg bw
Acute inhalation of vapours toxicity, LC50 rat: > 5.63 mg/l air (4:0)

SECTION12. Ecological information

12.1. Toxicity

The product has not been tested for environmental impact in the event of accidental release in the environment.

Related to contained substances:

mixture: n-Butane + i-Butane + Propane
No data available

propan-2-ol
LC50 (96 h): 100 mg/l > fish.
EC50 (48 h): > 100 mg/l Daphnia, algae.

Piperonyl butoxide
LC50 (96 h): 3.94 *Cyprinodon variegatus* mg/l (fish)
IC50 (72 h): 2.09 mg/l *Selenastrum capricornutum* (alga)
EC50 (48 h): 0.51 mg/l *Daphnia magna* (aquatic invertebrate)
C(E)L50 (mg/l) = 0,51

Eucalyptus oil

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

permethrin

Fishes: Guppy (*Poecilia reticulata*), LC50 (96 h): 8.9 g/l.

Carp (*Cyprinus carpio*), LC50 (96 h): 0, 145mg/L.

Algae: *Scenedesmus subspicatus*, EC50 (72 h): > 0.022 mg/L.

Crustaceans: *Daphnia magna*, EC50 (12:0 am): 0.020 mg/L.

Sewage sludge activated, EC50 (3:0): > 1000mg/L.

Acute toxic Earth worm (*Lampito mauritii*): > 1200mg/kg.

M-factor1000

C(E)L50 (mg/l) = 0,0089

Tetramethrin

Acute toxicity to fish: Lc50 (*Brachydanio rerio*): 33 ug/L (96 HR)

Acute toxicity to aquatic invertebrates: Ec50 (*Daphnia magna*): 0.47 mg/L (48 h)

Acute toxicity algae

Ebc50 (*Scenedesmus subspicatus*) > 1.36 mg/L (72 h)

Acute toxicity for insects: toxic to bees

Effects on microbial activity in the exhaust aftertreatment systems:

Do not highlight an inhibition of microbial activity (15%) until < concentrations of 1000 mg/L included.

The product is dangerous for the environment as it is very toxic to aquatic organisms following acute exposure.
The product can cause long-term adverse effects in the aquatic environment, being hardly degradable and / or bioaccumulative

Use according to good working practices to avoid pollution into the environment.

12.2. Persistence and degradability

No data available on the mixture.

Related to contained substances:

mixture: n-Butane + i-Butane + Propane

No data available

propan-2-ol

> 70%; 10 days. Readily biodegradable.

Piperonyl butoxide

The substance is not readily biodegradable.

Eucalyptus oil

No data available

permethrin

DT50, pH4, 25 C 1 year > (H2O)

Tetramethrin

The substance can be considered moderately biodegradable. After 28 days of incubation leads to a degradation levels up to 24%.

Hydrolysis, photolysis: the substance degrades rapidly in water, especially in neutral or alkaline conditions.

12.3. Bioaccumulative potential

No data available on the mixture.

Related to contained substances:

mixture: n-Butane + i-Butane + Propane

No data available

propan-2-ol

No significant bioaccumulation.

Piperonyl butoxide

BCF: 91-260-380.

Eucalyptus oil

No data available

permethrin

No data available

Tetramethrin
FBC (Koc = 8,900): 20
Low bioaccumulation potential.

12.4. Mobility in soil

No data available on the mixture.

Related to contained substances:

mixture: n-Butane + i-Butane + Propane
No data available

propan-2-ol
No data available

Piperonyl butoxide
For the substance found a mobility in soil between low and moderate.

Eucalyptus oil
No data available

permethrin
Strongly adsorbed by soil particles without the risk of leaching.

Tetramethrin
The substance is motionless and preferably remains in soil.

12.5. Results of PBT and vPvB assessment

The substance / mixture does NOT contains substances PBT/vPvB according to Regulation (EC) No 1907/2006, Annex XIII

12.6. Other adverse effects

No adverse effects

SECTION13. Disposal considerations

13.1. Waste treatment methods

The waste must be disposed of in compliance with the regulations in force delivering empty containers for final disposal and equipped to safely handle pressurized containers containing flammable liquids and gas waste. The empty container heated to temperatures exceeding 70 ° C can burst.

Recover if possible. Send to authorized discharge plants or for incineration under controlled conditions. Operate according to local and National rules in force

SECTION14. Transport information

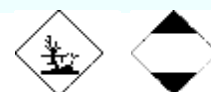
14.1. UN number

1950

ADR exemption because compliance with the following characteristics:

Combination packagings: per inner packaging 1 L per package 30 Kg

Inner packagings placed in skrink-wrapped or stretch-wrapped trays: per inner packaging 1 L per package 20 Kg



14.2. UN proper shipping name

AEROSOL flammable

14.3. Transport hazard class(es)

Class : 2

Label : 2.1

Tunnel restriction code : D

Limited quantities : 1 L

EmS : F-D, S-U

14.4. Packing group

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14.5. Environmental hazards

Product is environmentally hazardous

Marine polluting agent : Not

14.6. Special precautions for user

The transport must be carried out by authorised vehicles carrying dangerous goods in accordance with the requirements of the current edition of A.D.R Agreement. and the national provisions applicable.

The transport must be carried out in the original packaging and in packages that are made from materials resistant from the content and not likely to generate with this dangerous reactions. Attendants to the loading and unloading of dangerous goods must have received proper training on the risks presented by prepared and on possible procedures to be taken in the event of emergency situations

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

It is not intended to carry bulk

SECTION15. Regulatory information

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

Legislative Decree no. 3/2/1997 no. 52 (Classification, packaging and labeling of dangerous substances). Legislative Decree 14.3.2003 n. 65 (Classification, packaging and labeling of dangerous substances). Leg. 02/02/2002 n. 25 (Risks related to chemical agents at work). D.M. Working 26/02/2004 (Occupational exposure limit); DM 04/03/2007 (Implementation of Directive no. 2006/8/EC). Regulation (EC) n. 1907/2006 (REACH) Regulation (EC) n. 1272/2008 (CLP) Regulation (EC) n.790/2009.D.Lgs. September 21, 2005 n. 238 (Seveso Ter).

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION16. Other information

16.1. Other information

Points modified compared to previous release: 2.2. Label elements, 2.3. Other hazards, 4.1. Description of first aid measures, 8.1. Control parameters, 8.2. Exposure controls, 10.4. Conditions to avoid, 11.1. Information on toxicological effects, 12.1. Toxicity, 12.2. Persistence and degradability, 12.3. Bioaccumulative potential, 12.4. Mobility in soil, 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Description of the sentences of risk set out in paragraph 3

R10 = Flammable.

R11 = Highly flammable.

R12 = Extremely flammable.
R20 = Harmful by inhalation.
R22 = Harmful if swallowed.
R36 = Irritating to eyes.
R43 = May cause sensitization by skin contact.
R50 = Very toxic to aquatic organisms.
R51 = Toxic to aquatic organisms.
R53 = May cause long-term adverse effects in the aquatic environment.
R65 = Harmful: may cause lung damage if swallowed.
R67 = Vapours may cause drowsiness and dizziness.

Description of the hazard statements exposed to point 3

H220 = Extremely flammable gas.
H280 = Contains gas under pressure; may explode if heated.
H225 = Highly flammable liquid and vapour.
H319 = Causes serious eye irritation.
H336 = May cause drowsiness or dizziness.
H400 = Very toxic to aquatic life.
H410 = Very toxic to aquatic life with long lasting effects.
H226 = Flammable liquid and vapour.
H304 = May be fatal if swallowed and enters airways.
H317 = May cause an allergic skin reaction.
H411 = Toxic to aquatic life with long lasting effects.
H302 = Harmful if swallowed.
H332 = Harmful if inhaled.

Classification based on data of all mixture components

Main normative references:

Directive 1999/45/EC
Directive 2001/60/EC
Regulation 1272/2008/EC
Regulation 2010/453/EC

*** This Board cancels and replaces any previous edition.
