



**Material Safety Data Sheet (MSDS)**  
**Persuper 255 EC**

**IDENTIFICATION OF THE SUPPLIER:**

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**PRODUCT IDENTIFICATION:**

**Common Name:**

permethrin 25% w/v + S-bioaltrin 0.5% w/v + PBO 5% w/v

**Trade Name:** Persuper 255 EC

**Type of formulation:** Emulsifiable Concentrate (EC)

**Chemical Name:**

Permethrin:

(3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

S-Bioallethrin: [1R-[1□(S\*),3□]-2-methyl-4-oxo-3-(2-propenyl)-2-cyclopenten-1-yl 2,2-dimethyl-3-(2-methyl-1-propenyl)cyclopropanecarboxylate

PBO: 5-[[2-(2-butoxyethoxy)ethoxy]methyl]-6-propyl-1,3-benzodioxole

**Chemical Formula:**

Permethrin: C<sub>21</sub>H<sub>20</sub>Cl<sub>2</sub>O<sub>3</sub>

S-Bioallethrin: C<sub>19</sub>H<sub>26</sub>O<sub>3</sub>

PBO: C<sub>19</sub>H<sub>30</sub>O<sub>5</sub>

**Molecular Weight:**

Permethrin: 391.3

S-Bioallethrin: 302.4

PBO: 338.4





## PRODUCT COMPOSITION:

<i>Active Ingredient:</i>	<i>% w/v</i>	<i>CAS #</i>
Permethrin	25	[52645-53-1]
S-Bioallethrin	0.5	[28434-00-6]
PBO	5	[51-03-6]
<i>Inert ingredient:</i>		
Emulsifier	8%	--
Solvent	Up to 100%	--

## HAZARDS IDENTIFICATION:

**Main hazards:** Flammable.

: Irritating to eyes.

**Specifics risks:** Dangerous to aquatic organisms.

Main acute symptoms:

The following symptoms may occur:

\***Local:** skin and eyes paraesthesiae which may be severe. Usually transient with resolution within 24 hours.

\***Systemic:** dizziness, headache, nausea, anorexia, fatigue, listlessness, vomiting, epigastric pain, muscular fasciculation and convulsions (in extreme circumstances).

## FIRST-AID MEASURES:

**Inhalation:** Remove to fresh air, Keep patient at rest, Obtain medical advice immediately.

**Skin contact:** Carefully remove contaminated clothing, Wash affected area with soap and water, Seek medical advice immediately.

**Eyes Contact:** Rinse immediately with clean water for at least 15 minutes and obtain medical aid.

**Ingestion:** Wash out mouth with water, Do not induce vomiting, Give water to drink, Keep patient at rest, Seek medical advice immediately.

**Antidote:** No specific antidote is known, treat patient symptoms.

## FIRE-FIGHTING MEASURES: -

**Suitable extinguishing media:** Water spray, CO2, foam, dry chemical.

**Unsuitable extinguishing media:** Water jet from a fire hose.





**Fire and explosion hazards:** Flammable, In case of fire, the product emits toxic and irritating fumes.

**Special protective equipment:** Before intervention, wear protective clothing. Wear a self-contained breathing apparatus.

**Other recommendations:** Keep away from heat and flame if possible. Cool with water the containers against excessive heat. Avoid rejection of extinguishing water in the environment. Do not breathe fumes.

## ACCIDENTAL RELEASE:

**Personal protection:** Before intervention wear protective equipment. Avoid contact with chemical or contaminated surfaces.

**Environment precautions:** Prevent entry into drains, sewers and watercourses.

Absorb with liquid binding material sand, cement, lime. Sweep into a suitable container and store the material collected. Keep safe for disposal according to regulations.

**Clean-up procedures:** Rinse the polluted area with a large quantity of water and cleaning agent. Store the washing waters into a suitable container.

## HANDLING AND STORAGE:

### HANDLING

**Technical measures:** Use local exhaust ventilation at the source of formation of vapor.

Provide an ocular shower and sanitary installations near the working place.

**Special protection measures:** Do not spray facing the wind.

**Specifics precautions:** Wash hands and exposed part of the body with soap after work.

### STORAGE

**Sensitivity to damp:** \*Keep protected from moisture.

**Sensitivity to light:** Keep protected from direct sunlight.

**Storage temperature:** Keep at ambient temperature.

**Low temperature to be avoided:** Protect from frost.

**Special storage requirement:** Keep away from food, drink and animal feeding stuffs.





**Storage facilities:** Keep container tightly closed in cool and well-ventilated place.

**Recommended packaging material:** Aluminum, PET.

**Other recommendations:** Keep only in the original container.

Do not re-use empty containers.

## PERSONAL PROTECTION/SAFTETY:

### Exposure Guidelines

None established for the preparation.

Chlorpyrifos: ACGIH Threshold Limit Value (TLV) is 0.2 mg/m<sup>3</sup> TWA-8 hours (skin). Supplier recommendation for solvent is 100 ppm

### Engineering Controls

Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

### Respiratory Protection

When airborne exposure guidelines and/or comfort levels may be exceeded, use an approved air-purifying respirator.

For emergency conditions, use an approved positive-pressure selfcontained breathing apparatus.

### Hand/Skin Protection

For brief contact, no precautions other than clean body-covering clothing and chemical resistant gloves should be needed. When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material.

For emergency conditions: Use protective clothing impervious to this material. Selection of specific items will depend on operation.

### Eye/Face Protection

Use chemical goggles. If vapor exposure causes eye discomfort, use a full-face supplied-air respirator

## PHYSICAL AND CHEMICAL PROPERTIES:

**Appearance:** yellow to light brown liquid

**Flash point:** 45 °C.

**Inflammability limits:** Lower: 0.6 % v/v.

Upper: 7 % v/v.

**Density:** 0.95 ± 0.05 g/ml

**Solubility:** Soluble in organic solvents, Emulsifiable in water.



Partition coefficient Octanol/Water  
S-Bioallethrin : Log Pow = 4.70  
Permethrin 25/75: Log Pow = 6.1  
Piperonyl butoxide: Log Pow = 4.75.

## STABILITY AND REACTIVITY:

**Products of decomposition:** No decomposition under normal conditions.  
**Avoided conditions:** Keep away from heat and source of ignition.

## TOXICOLOGICAL INFORMATION:

**Acute toxicity** LD 50 oral route/rat : > 2000 mg/kg.

LD 50 cutaneous route/rabbit: > 9260 mg/kg.

**Irritant potential Ocular irritation (rabbit):** irritating.

**Cutaneous irritation (rabbit):** slightly irritating.

**Sensitization:** No known reports of skin sensitisation.

Due to the presence of solvents in the preparation dermatosis may occur by repeated and prolonged contact with skin.

Chronic toxicity \*S-Bioallethrin : no data known.

\*Permethrin : Not mutagenic

Not teratogenic

Not carcinogenic.

**Comments/symptoms:** Some cutaneous sensations may occur, such as burning, stinging sensations on the face and mucosa, without lesions and transient some hours, maximum 24 h.

\*Due to the presence of solvents in the preparation, may cause lung damage if swallowed.

## ECOLOGICAL INFORMATION:

**Environment protection:** Do not throw out into drains, sewers, watercourses or environment.

**Persistence and degradability:** The product is expected to be readily biodegradable.

**Ecotoxicity:**

Ecotoxicological assessment available for the active ingredient.

Permethrin 25/75: LC 50 fish (96h) : 0.019 mg/l.

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\*EC 50 daphnia (48h) : 0.002 mg/l.

S-Bioallethrin: LC 50 fish (96h) : 0.01 mg/l.

Bioaccumulation: The product is not expected to bioaccumulate.

### **DISPOSAL CONSIDERATIONS:**

**Waste and residue:** Incineration in accordance with the local waste regulation authority.

Do not discharge washing waters in public sewers and water sources (Ponds, streams...)

**Destruction soiled packaging:** Empty and triple rinse.

Make the container unusable.

Disposal must be treated according to official local regulation.

### **TRANSPORT INFORMATION:**

N° UN: 1993

#### **BY ROAD**

**Transport assimilation:** Flammable liquid, n.o.s. (Odorless kerosene)

**Class:** 3

**Item number:** 31°C)

**Label:** 3

**Hazard Code:** 30

#### **O.A.C.I. (By Air)**

**Transport assimilation :** Flammable liquid, n.o.s. (Odorless kerosene)

**Class:** 3

**Group:** III

**Label:** 3

**Passengers:** 309 (60 L)

**Cargo:** 310 (220 L)

#### **I.M.D.G. (By Sea)**

**Transport assimilation:** Flammable liquid, n.o.s. (Odorless kerosene)

**Class:** 3.3

**Group:** III, page 3345

**Label:** 3

**Mark:** Marine pollutant (S-Bioallethrin - Permethrin)

