

Safety Data Sheet

PERMETHRIN SMOKE GENERATOR

SECTION 1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY OR UNDERTAKING

Product Identifier

- 1.1. Tradename: PERMETHRIN SMOKE GENERATOR
Contains Permethrin and Potassium Chlorate
UFI: 8V00-X0KU-D00K-060S
- 1.2. Relevant identified uses of the substance or mixture and uses advised against Insecticidal Smoke Generator (FU)

1.3. Details of the supplier of the safety data sheet

Company Octavius Hunt Ltd
Redfield, BRISTOL, BS5 9NQ, UK
Phone +44 (0) 117 955 5304
Fax +44 (0) 117 955 7875
Website www.octaviushunt.co.uk
Email info@octavius-hunt.co.uk

- 1.4. Emergency telephone number + 44 (0) 7720 051020 (24h)

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

- Classification (Regulation (EC) No 1272/2008) [CLP/GHS]: Acute Tox 4. H302; Sens Skin. 1. H317; Aquatic Chronic 2, H411
- Additional Information: For full text of Hazard and EU Hazard-statements: see section 16

2.2 Label elements



Signal word: Warning

SECTION 2: HAZARDS IDENTIFICATION (....)

Hazard statements

H302	Harmful if swallowed
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

P261	Avoid breathing dust /smoke
P273	Avoid release to the environment.
P301 + P312	IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P501	Dispose of contents/container in accordance with local / regional / international regulations.

Supplemental Hazard Information (EU)

- None

2.3 Other hazards

- Ignites readily. Product burns without a flame to give a dense white harmful smoke.
- This product contains <1% respirable silica
- Not a PBT according to Reach Annex XIII
- Not a vPvB according to Reach Annex XIII

- SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: N.A.

3.2. Mixture

Contains the following hazardous ingredients or ingredients with a workplace exposure limit

Chemical Name	Conc.	CAS No.	EC No.	Classification according to Regulation (EC) No 1278/2008 (CLP).	REACH Registration Number	WEL/OEL
Permethrin	13.5%*	52645-53-1	258-067-9	Acute Tox. 4, H332 Acute Tox. 4, H302 Skin SE. 1B, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H411	-	No
Potassium chlorate	10 -20% w/w	3811-04-9	223-289-7	Ox. Liq. H271; Acute Tox. H302; Acute Tox 4 H332; Aquatic Chronic 2, H411	01-2119494917-18-xxxx	No

*The allowable specified tolerance of Permethrin content can be 12.7-14.3%

SECTION 4: FIRST AID MEASURES

Rescuers should take suitable precautions to avoid becoming casualties themselves

4.1 Description of First Aid Measures General Advice:

Show this safety data sheet to the doctor in attendance

Contact with eyes:

If substance has got into eyes, immediately wash out with plenty of water for several minutes. Irrigate eyes thoroughly whilst lifting eyelids.

Remove contact lenses, if present and easy to do. Continue rinsing.

Get immediate medical advice/attention

Contact with skin:

Take off contaminated clothing and wash it before reuse.

Wash affected area with plenty of soap and water.

If skin irritation occurs: Get medical advice/attention

Inhalation:

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

If unconscious, place person in recovery position

Apply artificial respiration only if patient is not breathing but **do not** use mouth to mouth resuscitation. Get immediate medical advice/attention.

Ingestion:

Rinse mouth with water (do not swallow).

Give 200-300mls (half pint) water to drink.

Do NOT induce vomiting. Get medical advice/attention.

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

Contact with eyes

- May cause severe damage with formation of corneal ulcers and permanent impairment of vision. Causes redness and swelling.

Contact with skin

- May cause redness and irritation.
- In cases of severe exposure, blistering of the skin may develop.

Ingestion

- Can form methaemoglobin in the blood, causing cyanosis.
- May cause burns to mouth and throat.
- May cause stomach pain.
- May cause nausea/vomiting.
- There may be bleeding from the mouth or nose.

Inhalation

- May cause shortness of breath.
- May cause coughing and tightness of chest.
- Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness

4.3. Immediate Medical Attention

Risk of methemoglobinemia. Not to be treated with methylthionine. - Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media:

Suitable extinguishing media:

Sand/earth; foam; water spray;

carbon dioxide. - Unsuitable extinguishing media:

Do not use water jets;

Dry agent extinguishers are unsuitable and should not be used.

5.2. Special Hazards arising from the mixture:

- Ignites readily.
- Contains an oxidising agent; may assist combustion.
- May form explosive dust/air mixtures.
- Gives off irritating or toxic fumes (or gases) in a fire.
- Decomposition products may include oxygen, ammonium chloride, carbon oxides, nitrogen oxides, ammonia, hydrocyanic acid (HCN).

5.3. Advice for fire-fighters:

- Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.
- Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

- No action shall be taken involving any personal risk or without suitable training.
- Only trained and authorised personnel should carry out emergency response.
- Avoid formation of dust.
- Shut off all ignition sources
- Personal precautions for non-emergency personnel: Avoid breathing dust/fume/gas/mist/vapours/spray; Avoid contact with skin and eyes; Wear protective clothing as per section 8; Wash thoroughly after handling; Eyewash bottles should be available.
- Personal precautions for emergency responders: Evacuate the area and keep personnel upwind; Wear chemical protection suit; Wear self-contained breathing apparatus (SCBA).

6.2. Environmental precautions:

- Avoid release to the environment.
- Do not allow to enter public sewers and watercourses.
- If contamination of drainage systems or water courses is unavoidable, immediately inform appropriate authorities.

6.3. Methods and material for containment and cleaning up:

- Do not absorb spillage in sawdust or other combustible material.
- Avoid formation of dust.
- Shut off all ignition sources.
- Take action to prevent static discharges.
- Do not allow to enter public sewers and watercourses.

- Small spills Wipe up spillage with damp absorbent cloth or towel.
Wash spill site with water and detergent.

- Large spills Evacuate the area and keep personnel upwind.
Damp down to avoid dust generation.
Absorb spillage in earth or sand.
Sweep or shovel-up spillage and remove to a safe place.
Place in appropriate container.
Seal containers and label them.
Remove contaminated material to safe location for subsequent disposal.
Ventilate the area and wash spill site after material pick-up is complete.

6.4. Reference to other sections:

- See section(s): 7, 8 & 13

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

- Read the label before use.
- Prevent formation of dust.
- Take precautionary measures against static discharges.
- Ensure adequate ventilation.
- In case of inadequate ventilation wear respiratory protection.
- Avoid contact with skin and eyes.
- Do not eat, drink or smoke when using this product.
- Keep away from heat and sources of ignition. - Avoid contact with acids and alkalis.
- Avoid release to the environment.
- Take off contaminated clothing.
- Contaminated work clothing should not be allowed out of the workplace.
- Contaminated clothing should be laundered before reuse.
- Eyewash bottles should be available.

7.2. Conditions for storage, including any incompatibilities

- Shelf life: 2 years when stored in the original unopened sales container at ambient temperatures.
- Store in a cool, dry well-ventilated place. Keep container tightly closed.
- Keep away from combustible material.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep out of reach of children.

7.3. Specific end use

An Insecticidal Smoke Generator

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

- For currently recommended monitoring procedures, see HSE series 'Methods for the Determination of Hazardous Substances' (MDHS).
- Occupational exposure to respirable crystalline silica dust should be monitored and controlled.

-Permethrin

PNEC aqua (freshwater) 0.00047 ug/l

PNEC (STP) 0.00495 mg/l

PNEC terrestrial (soil) >0.0876 mg/kg

- Potassium chlorate

DNEL (inhalational) 5.76 mg/m³ Industry, Long Term, Systemic Effects

DNEL (dermal) 3.5 mg/kg (bw/day) Industry, Long Term, Systemic Effects

DNEL (inhalational) 300 ug/m³ Consumer, Long Term, Systemic Effects

DNEL (dermal) 130 ug/kg (bw/day) Consumer, Long Term, Systemic Effects

DNEL (oral) 60 ug/kg (bw/day) Consumer, Long Term, Systemic Effects

PNEC aqua (freshwater) 1.15 mg/l

PNEC aqua (marine water) 1.15 mg/l

PNEC (STP) 115 mg/l

PNEC terrestrial (soil) 3.83 mg/kg

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION (....)

8.2. Exposure controls

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential.

- Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment.

Where a reusable half mask respirator is required, use EN 140, with gas/vapour filter EN 14387 type ABEK, or EN 405; EN 1827 and EN 143 particle filter.

Where a full face mask respirator is required, use EN 136, with gas/vapour filter EN 14387 type ABEK and particle filter EN 143.

- Skin protection

Wear suitable protective clothing.

Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374. The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted. PVC or rubber gloves are recommended.

- Eye/face protection

Wear goggles giving complete eye protection approved to standard EN 166.

- Hygiene measures

Contaminated clothing should be laundered before reuse.

Do not eat, drink or smoke when using this product.

Eyewash bottles should be available.

- Environmental exposure controls

Avoid release to the environment.

Do not empty into drains



SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Colour:	Off-white.
Physical State:	Powder in a plastic or metal pot
Odour:	Odourless.
Melting Point:	Not applicable.
Boiling point:	Not applicable.
Flash-Point:	Does not flash.
Autoignition temperature	Not available
Minimum Ignition temp.	Not available.
Minimum Ignition:	Not available
Oxidizing properties:	Contains an oxidising agent; may assist combustion.
Energy Explosive properties	Not applicable
Vapour pressure:	Not available.
Solubility:	Partly soluble in/with water.
pH-value (quant.):	Not available.
Partition coeff. (n-octanol/water):	Not available.
Density:	Not available.

9.2 Other Information:

- No information available

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

- No hazardous reactions known if used for its intended purpose

10.2 Chemical stability

- Considered stable under normal conditions.

10.3 Possibility of hazardous reactions

- Reacts with combustible material.
- Reacts with acids liberating toxic gas (chlorine).

10.4 Conditions to avoid

- Avoid formation of dust.
- Keep away from heat and sources of ignition.
- Keep away from static electricity.

10.5 Incompatible materials

- Incompatible with strong acids.
- Incompatible with alkalis (strong bases).
- Incompatible with halogenated substances.

10.6 Hazardous decomposition products

- Decomposition products may include oxygen, ammonium chloride, carbon oxides, nitrogen oxides, ammonia, hydrocyanic acid (HCN).

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

- Acute Toxicity

Harmful if swallowed.

Classification based on calculation and concentration thresholds.

ATE mix (oral) >2000 mg/kg

Chemical name	LD50 (oral, rat)	LC50 (inhalation, rat)	LD50 (dermal, rabbit)
Potassium chlorate	500 mg/kg	5 mg/l (4 hr)	NS
Permethrin	554 mg/kg	>4.638 mg/l (4hr)	>2000 mg/kg

- Skin corrosion/irritation

Based on available data, the classification criteria are not met.

- Serious eye damage/irritation

Based on available data, the classification criteria are not met.

- Respiratory or skin sensitisation

May cause an allergic skin reaction.

Classification based on calculation and concentration thresholds.

- Germ cell mutagenicity Based on available data, the classification criteria are not met.

- Carcinogenicity Based on available data, the classification criteria are not met.

- Reproductive toxicity No evidence of reproductive effects

- Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

SECTION 11. TOXICOLOGICAL INFORMATION (....)

- Specific target organ toxicity (STOT) - repeated exposure
Based on available data, the classification criteria are not met.

Chemical Name	NOAEL (oral, rat)
Permethrin	8.6 mg/kg bw/day (90days)

- Aspiration hazard
Based on available data, the classification criteria are not met.
- Contact with eyes
May cause redness and swelling.
- Contact with skin
May cause redness and irritation.
In cases of severe exposure, blistering of the skin may develop.
- Ingestion Can form methaemoglobin in the blood, causing cyanosis
May cause burns to mouth and throat.
May cause stomach pain.
May cause nausea/vomiting.
There may be bleeding from the mouth or nose.
- Inhalation Causes shortness of breath.
May cause coughing and tightness of chest.
Prolonged and/or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness.

SECTION 12. ECOLOGICAL INFORMATION

12.1 Toxicity

- Toxic to aquatic life with long lasting effects.
- Classification based on calculation and concentration thresholds.

- Potassium chlorate
LC50 (fish) 1 g/l (4 days)
EL50 (aquatic invertebrates) 1 g/l (48 hr)
EL50 (aquatic algae) 1.9 - 500 mg/l (72 hr)

- Permethrin
LC50 (fish) 8.9 g/l (4 days)
EL50 (aquatic invertebrates) 0.00127mg/l (48 hr)
EL50 (aquatic algae) >1.13mg/l (72 hr)

12.2 Persistence and degradability

- Potassium chlorate Biodegradable
- Permethrin Not readily biodegradable in water

12.3 Bio accumulative potential

- Chlorate is converted to chlorite in plants, which accumulates in cells until toxic concentrations are reached, when the plant dies

12.4 Mobility in soil

- No information available

12.5 Results of PBT and vPvB assessment

- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII

12.6 Other adverse effects

- No information available

SECTION 13. DISPOSAL CONSIDERATIONS

13.1. WASTE TREATMENT METHODS

- Do not discharge into drains or the environment, dispose to an authorised waste collection point
- Dispose of product and packaging in accordance with national waste regulations.
- This material and/or its container must be disposed of as hazardous waste.

13.2 Classification

- The waste must be identified according to the List of Wastes (2000/532/EC).
- Hazardous Property Code(s): HP 4 Irritant; HP 6 Acute Toxicity; HP 14 Ecotoxic

SECTION 14. TRANSPORT INFORMATION

***Permethrin generators and packaging are subject to special provisions (ADR 375 / ICAO A197) and therefore neither Limited Quantity markings or any other markings are required)**

14.1 UN number

- UN No.: 3077

14.2 UN proper shipping name

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PERMETHRIN MIXTURE)

14.3 Transport hazard class(es)

- Hazard Class: 9

14.4 Packing group

- Packing Group: III

14.5 Environmental hazards

- Yes

14.6 Special precautions for user

- Refer to sections 4 -8

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

- Not applicable

14.8 Road/Rail (ADR/RID)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PERMETHRIN MIXTURE)
- ADR UN No.: 3077
- ADR Hazard Class: 9
- ADR Packing Group: III

14.9 Sea (IMDG)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PERMETHRIN MIXTURE)
- IMDG UN No.: 3077
- IMDG Hazard Class: 9
- IMDG Pack Group.: III

14.10 Air (ICAO/IATA)

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PERMETHRIN MIXTURE)
 - ICAO UN No.: 3077
 - ICAO Hazard Class: 9
 - ICAO Packing Group: III
-

SECTION 15. REGULATORY INFORMATION

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

- This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 as amended by Regulation (EU) 2015/830.
- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe.
- The COSHH Regulations apply in the UK.

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16. OTHER INFORMATION

Information contained in this data sheet is accurate to the best of our knowledge and belief and is given in good faith. It is intended to describe our product from the point of view of safety requirements and is not intended to guarantee any particular properties.

Sources of data: Information from published literature and supplier safety data sheets

Revision No. 5.3. Revised March 2020.

Changes made: Revised to add in H332 to potassium chlorate in table 3.2

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP];;

Acute Tox 4, H302: Classification based on calculation and concentration thresholds

Sens Skin. 1, H317: Classification based on calculation and concentration thresholds

Aquatic Chronic 2, H411: Classification based on calculation and concentration thresholds

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

- H271: May cause fire or explosion; strong oxidiser
- H332: Harmful if inhaled
- H372: Causes damage to organs through prolonged or repeated exposure
- H410: Very Toxic to aquatic life with long lasting effects

Acronyms

- ATE: Acute Toxicity Estimates
- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC50: Effective Concentration, 50%
- GHS: Globally Harmonised System
- IARC: International Agency for Research on Cancer
- IC50: Half-maximal inhibitory concentration
- LC50: Lethal Concentration, 50%
- LD50: Lethal Dose, 50%
- NOAEC: No observed adverse effect concentration
- NOAEL: No observed adverse effect level
- NOEC: No observed effect concentration
- OEL: Occupational Exposure Limit
- PBT: Persistent, Bioaccumulative and Toxic
- PNEC: Predicted No-Effect Concentration
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

Previous revisions should be destroyed.
