



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1 Product **Deadfast Greenhouse Smoke Generator** **HSE 10174**

1.2 Relevant identified use Insecticide

1.3 Details of the supplier of the safety data sheet

Westland Horticulture Ltd
14 Granville Industrial Estate
Granville Road
Dungannon
County Tyrone
BT70 1NJ

Email customerservice@Westland.com

1.4 Emergency telephone number 01480 443789 (UK) 24hrs

2. HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture According to Regulation (EC) No 1272/2008:

Acute toxicity: Category 4
Skin sensitization: Category 1
Eye irritation: Category 2

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Acute aquatic toxicity: Category 1

H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1

H410 Very toxic to aquatic life with long lasting Effects.

2.2 Label Elements According to Regulation (EC) No 1272/2008:

Hazard Pictograms

GHS09 – Environmentally damaging



Signal Word

Warning



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date:

10.01.2023

Print date:

10.01.2023

Hazard Statements

H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.

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

Precautionary Statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/ doctor/ physician.

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as non-hazardous waste.

2.3 Other hazards

Cutaneous sensations may occur, such as burning or stinging on the face and mucosae. However, these sensations cause no lesions and are of a transitory nature (max. 24 hours). Ignites readily. Product burns without a flame to give a dense white harmful smoke.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances: N/A

3.2 Description

Smoke generator (FU) Permethrin 25/75 13.5% w/w

Hazardous components/components having designated Workplace Exposure Limits:



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

Ingredient	Identifiers	Concentration %W/W	Warning Symbols	Regulation (EC) No 1272/2008 (CLP)
Permethrin	CAS: 52645-53-1 EC:258-067-9	13.50 %	 	Acute Tox 4: H332 Acute Tox.4: H302 Skin Sens. 1: H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410; M-Factor: 1.000 (acute)
Potassium chlorate	CAS: 3811-04-9 EC:223-289-7	>1.00- <25.00 %	 	Ox. Sol. 1; H271 Acute Tox. 4; H332 Acute Tox. 4; H302 Aquatic Chronic 2; H411

Additional information:

See Section 16 for the full text of the H statements declared above

4. FIRST AID MEASURES

4.1 General Advice: Have the product container, label or Material Safety Data Sheet with you when calling a poison control center or physician or going for treatment.
Remove contaminated clothing immediately and dispose of safely.

Inhalation: Move person to fresh air.
Keep patient warm and at rest.
Call a physician or poison control center immediately.

Skin Contact: Wash off with soap and plenty of water.
Warm water may increase the subjective severity of the irritation/paresthesia.
This is not a sign of systemic poisoning.
In case of skin irritation, application of oils or lotions containing vitamin E may be considered.
If symptoms persist, call a physician.

Eye Contact: Rinse with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses after the first 5 minutes flushing and then continue flushing.
Warm water may increase the subjective severity of the irritation/paresthesia.
This is not a sign of systemic poisoning.
Apply soothing eye drops, if needed anaesthetic eye drops.
Get medical attention if irritation occurs and persists.

Ingestion: Rinse out mouth with water and give water in small sips to drink.
Do NOT induce vomiting.



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

If swallowed, seek medical advice immediately and show this container or label.

4.2 Most Important symptoms and effects, both acute and delayed: Additional information not available

Symptoms Local: Skin and eye paranesthesia which may be severe. Usually transient with resolution within 24 hours. Skin, eye and mucous membrane irritation, Cough, Sneezing.

Systemic: Discomfort in the chest, Tachycardia, Hypotension, Nausea, Abdominal pain, Diarrhoea, Vomiting, Dizziness, Blurred vision, Headache, Anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyper-reaction, Pulmonary oedema, Palpitation, Muscular fasciculation, Apathy.

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

Risks This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning.

Treatment Local treatment: Initial treatment: symptomatic.
Systemic treatment: Initial treatment: symptomatic. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphates is always advisable. Keep respiratory tract clear. Oxygen or artificial respiration if needed. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, Phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote. Recovery is spontaneous and without sequel.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable Extinguishing Media:

High volume water jet.

5.2 Specific Hazards Arising from the Substance or Mixture:

Dangerous gases are evolved in the event of a fire. Contains potassium chlorate which is classified as an oxidizing agent



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

5.3 Advice for Fire Fighters:

Wear full protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Do not breathe fumes.

Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Further Information:

Do not allow molten material or run-off from firefighting to enter drains or water courses as it may be harmful to the environment if released in large quantities.

If fire run-off water enters drains or water course, inform the appropriate water authorities immediately.

Whenever possible, contain fire-fighting water by diking area with sand or earth.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:

Avoid formation / breathing of dust. Ensure adequate ventilation.

Avoid contact with skin and eyes.

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable material.

6.2 Environmental Precautions:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Inform the relevant authorities if the product has caused environmental pollution.

6.3 Methods and Materials for Containment and Cleaning Up:

The nature of this product, when contained in commercial packs, makes spillage unlikely. However, if significant amounts are spilled nevertheless, the following advice is applicable. Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Clean floors and contaminated objects with plenty of water.

Additional Advice: Check also for any local site procedures.



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- Avoid contact with eyes and skin.
- Do not eat, drink, or smoke when using this product.
- Take off contaminated clothing and wash before reuse.
- Wash hands forearms and face and observe good hygiene practice after handling this product.
- Empty containers retain product residue and can be hazardous.
- Do not reuse container.
- Dust may form explosive mixture in air.

7.2 Conditions for safe storage, including any incompatibilities

Storage:

- Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (See Section 10). Protect from freezing.
- Keep container tightly closed and sealed until ready for use.
- Containers that have been opened must be carefully resealed and kept upright to prevent leakage.
- Keep away from organic materials, oil and grease, food, and drink.

7.3 Specific End Uses:

Use as insecticide according to the instruction on the label.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Ingredients with limit values that require monitoring at the workplace:

Components	CAS-No.	Control parameters	Update	Basis
Permethrin	52645-53-1	10 mg/m ³ (TWA)		OES BCS*

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure Controls

8.2.1 Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

Avoid high dust concentration and provide ventilation where necessary.

8.2.2 Protective Measures: A risk assessment based on the task being performed and the risks involved should be carried out to determine personal protection equipment required to avoid mists, gases or dusts. When selecting personal protective equipment, seek appropriate professional advice.

Personal protective equipment should be certified to appropriate standards.

Respiratory Protection: Use a properly fitted, particulate filter respirator complying with European norm EN149FFP1 or equivalent (protection factor 4) if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hand Protection: Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0.4 mm) when handling the product over long periods or if a risk assessment indicates this is necessary.

Eye Protection: Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

Skin and Body Protection: Wear standard coveralls and Category 3 Type 4 suit. If there is a risk of significant exposure, consider a higher protective type of suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently, if required, **for prolonged use only**.

8.2.3 Environmental exposure controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance: White/light beige solid

Physical state: solid

Colour: White/light beige

Odour: Characteristic



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

Odour threshold: N/A

Solubility: partly soluble in water

9.2 Other information

	Value	Concentration	Method	Temperature	Pressure	Remark
pH	4.2-5.2	-	-	-	-	-
Melting point/freezing point	-	-	-	-	-	-
Initial boiling point/boiling range	-	-	-	-	-	-
Flash point	-	-	-	-	-	-
Evaporation rate	-	-	-	-	-	-
Flammability (solid, gas)	-	-	-	130°C	-	-
Upper/lower flammability or explosive limits	-	-	-	-	-	-
Upper explosive limits	-	-	-	-	-	-
Lower explosive limits	-	-	-	-	-	-
Vapour pressure	-	-	-	-	-	-
Vapour density	-	-	-	-	-	-
Relative density	0.94g/ml	-	-	-	-	-
Solubility(ies)	Partly soluble in water	-	-	-	-	-
Partition coefficient: n-octanol/water	-	-	-	-	-	-
Auto-ignition temperature	-	-	-	-	-	-
Decomposition temperature	-	-	-	-	-	-
Viscosity	-	-	-	-	-	-
Viscosity,dynamic	-	-	-	-	-	-
Viscosity, cinematic	-	-	-	-	-	-
Explosive properties	-	-	-	-	-	-
Oxidising properties	Yes	-	-	-	-	-

Physical hazards: None



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

10. STABILITY AND REACTIVITY

10.1 Reactivity: Oxidising agent – may be incompatible with some materials

10.2 Chemical Stability: Stable under normal conditions of storage, handling, and use.

10.3 Possibility of hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions

10.4 Conditions to Avoid: Extremes of temperature and direct sunlight. Heat, flames, and sparks.

10.5 Incompatible Materials: Store only in the original container.

10.6 Hazardous decomposition products: No decomposition products expected under normal conditions of use

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, metabolism and distribution

11.1 Information on toxicological effects

Acute Toxicity:

Oral Toxicity: LD50 (rat) ca. 2000 mg/kg

Inhalation Toxicity: LC50 (rat) > 4.2 mg/l
Exposure time: 4 h
Highest attainable concentration.
Irritating to respiratory system.

Dermal Toxicity: ATE > 2000 mg/kg
ATE – acute toxicity estimate

Skin corrosion/Irritation: No skin irritation (rabbit)

Eye damage/Irritation: Irritating to eyes. (rabbit)



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

Respiratory or Skin Sensitization: Sensitizing (guinea pig)
Information given is based on data on the components and the toxicology of similar products.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Permethrin did not cause specific target organ toxicity in experimental animal studies.

Permethrin was not mutagenic or genotoxic in *in vitro* and *in vivo* tests.

Permethrin caused at high dose levels an increased incidence of tumours in mice in the following organ(s): liver, lungs. The mechanism that triggers tumours in rodents is not relevant for the low exposure encountered under normal use conditions.

Permethrin did not cause reproductive toxicity in a two-generation study in rats.

Further Information: Not information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

- Toxicity To Fish:** LC50 (Poecilia reticulata (guppy)) 0.0076 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient permethrin.
- Toxicity To Aquatic Invertebrates:**
EC50 (Water flea (Daphnia magna)) 0.00017 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient permethrin.
- Toxicity To Aquatic Plants:**
EC50 (Selenastrum capricornutum) 0.497 mg/l
Exposure time: 96h
The value mentioned relates to the active ingredient permethrin.
- Toxicity To Bacteria:** No information available.

12.2 Persistence and Degradability

Biodegradability: Permethrin:
Not rapidly biodegradable.

12.3 Bioaccumulative Potential: Permethrin: Bioconcentration factor (BCF) 300. Does not bioaccumulate.



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

12.4 Mobility in Soil: Permethrin: Immobile in soil.

12.5 Results of PBT and vPvB assessment:

Permethrin: This substance is not considered to be persistent, bio accumulative and toxic (PBT). This substance is not considered to be very persistent and very bio accumulative (vPvB).

12.6 Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product:

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

This material must be disposed of in a safe way.

Contaminated Packaging: The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. Empty the bag by shaking to remove as much as possible of its contents. Empty bags may be disposed of as non-hazardous material or returned for recycling. Not completely emptied packaging should be disposed of as hazardous waste.

The container must be disposed of in a safe way.

Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty container or liners may retain some product residues.



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

14. TRANSPORT INFORMATION

	Land transport (ADR/RID)	Inland waterway transport (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1 UN No.	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.2 UN Proper shipping name	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.3 Transport hazard class(es)	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
Hazard label(s)	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.4 Packing group	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods
14.5 Environmental hazards	Not dangerous goods	Not dangerous goods	Not dangerous goods	Not dangerous goods

14.6 Special precautions for user: None known

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Additional information: None known

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance of mixture:
HSE 10174

15.2 Chemical Safety Assessment: A chemical safety assessment is not required.

16. OTHER INFORMATION

16.1 Indication of changes: Review and update

16.2 Abbreviations and Acronyms



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

ADR	International Carriage of Dangerous Goods by Road
CAS No	Chemicals Abstract Service Registry Number
CLP	Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
EC No	European Community Number for chemicals within EU regulations
IATA-DGR	Dangerous Goods Regulations by the International Air Transport Association
IMDG Code	International Maritime Dangerous Goods Code
PBT	Persistent, Bioaccumulative and Toxic Properties
vPvB	Very Persistent and Very Bioaccumulative
RID	International Transport of Dangerous Goods by Rail
vPvB	Very Persistent and Very Bioaccumulative Properties

16.3 Key literature references and sources for data: Lodi UK Ltd

16.4 Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008

[CLP]: See SECTION 2.1 (classification).

16.5 Relevant R-, H- and EUH-phrases (number and full text):

H271	May cause fire or explosion, strong oxidiser.
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.
H411	Toxic to aquatic life with long lasting effects.

16.6 Training advice: Follow the instructions

16.7 Further information

Before using this product, ensure that you read and understand its label

MSDS information:

This Safety Data Sheet is prepared in compliance with Regulation 1272/2008 and Annex I of the REACH regulation 453/2010.

This safety data sheet provides health and safety information. This product is to be used in applications with best use practice. Individuals handling this product should be informed under COSHH of the recommended safety precautions and should have access to this information. The product information in this data sheet is to the best of our knowledge correct as at the date of publication. Westland Horticulture Limited does not accept responsibility for damage caused by incorrect use of this information.



Safety Data Sheet

According to Regulation (EC) No 1907/2006 (REACH)

Trade name: . Deadfast Greenhouse Smoke Generator

HSE 10174

Version:4.0

Revision date: 10.01.2023

Print date: 10.01.2023

Training and related advice:

This document contains important information to ensure the safe storage, handling and use of this product. It is the responsibility of your organisation to ensure that the information contained in this document is communicated to the end user and that all necessary training to enable the product to be used correctly has been given.

For further information please contact Westland Horticulture Ltd, 14 Granville Industrial Estate, Granville Road, Dungannon, County Tyrone, BT70 1NJ.