SAFETY DATA SHEET

IMPERATOR® SMOKE GENERATOR INSECTICIDE Date of Issue: November 2021

1. IDENTIFICATION

Product Identifier: **Imperator® Smoke Generator Insecticide**

Other Means of Identification: None

Recommended Use of the Chemical and Restrictions on Use: Insecticide

Details of Manufacturer or Importer:
AgNova Technologies Pty Ltd
Unit 4, 482 Kingsford Smith Drive
Hamilton, Qld 4007 Australia
(03) 9899 8100
agnova.com.au

Emergency Phone Number:
1800 033 111 (24 hours)
Poisons Information Centre 13 11 26

Smoke generators are ready to use products contained in a plastic or aluminium container. The following information is intended to give general health and safety guidance on the storage and transport of the product.

2. HAZARD(S) IDENTIFICATION

Classification in accordance with Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, as amended.



Pictogram: Exclamation Mark, Environment

Signal Word: 'Warning'

GHS Hazard Class and Category:
Acute Toxicity Oral – Category 4: 'Warning'
Hazard Statement: H302 Harmful if swallowed.

Skin Sensitisation – Category 1: 'Warning'
Hazard Statement: H317 May cause allergic skin reaction.

Hazardous to the Aquatic Environment – Acute Hazard – Category 1: 'Warning'
Hazard Statement: H400 Very toxic to aquatic life.

Hazardous to the Aquatic Environment – Long-term Hazard – Category 1: 'Warning'
Hazard Statement: H410 Very toxic to aquatic life with long-lasting effects.

Precautionary Statements:

Prevention

P261 Avoid breathing dust /smoke.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

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.
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.
P330 Rinse mouth.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

No additional statements.

Disposal

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 nonhazardous waste.

Other hazards

Ignites readily. Product burns without a flame to give a dense white harmful smoke.

ADG Classification:	Not classified as Dangerous Goods for land transport under the Australian Code for Transport of Dangerous Goods by Road and Rail special provision AU01 – refer section 14.
SUSMP Classification:	Schedule 5 (Standard for Uniform Scheduling of Medicines and Poisons)

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredients:	CAS Number:	Concentration (%):
Potassium chlorate	3811-04-9	>1.00-<25.00
Permethrin	52645-53-1	13.50
Other ingredients	(non hazardous)	Balance

EU classification for potassium chlorate: Oxidising Solid cat 1
H271: May cause fire or explosion; strong oxidiser.

4. FIRST AID MEASURES

If poisoning occurs, immediately contact a doctor or Poisons Information Centre (Phone 13 11 26), and follow the advice given. Show this Safety Data Sheet to a doctor.

Description of Necessary First Aid Measures:

General advice: Rescuers should take suitable precautions to avoid becoming casualties themselves.

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.

Skin Contact: 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.

Eye Contact: 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.

Ingestion: Rinse mouth with water (do not swallow). Give 200-300 mL water to drink. Do NOT induce vomiting. Get medical advice/attention.

First Aid Facilities: Ensure washing facilities are available.

Symptoms Caused by Exposure: *Inhalation:*
May cause shortness of breath.
May cause coughing and tightness of chest.

Skin Contact:
May cause redness and irritation.
In cases of severe exposure, blistering of the skin may develop.
Eye Contact:
May cause severe damage with formation of corneal ulcers and permanent impairment of vision. Causes redness and swelling.
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.

Medical Attention and Special Treatment: Risk of methemoglobinemia. Not to be treated with methylthionine. Treat symptomatically.

5. FIREFIGHTING MEASURES

Suitable Extinguishing Equipment: 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.

Specific Hazards Arising from the Chemical: 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).

Special Protective Equipment and Precautions for Firefighters: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

Further information: Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.

6. ACCIDENTAL RELEASE MEASURES

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).
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.
Methods and Materials for Containment and Cleaning Up:	The nature of this product, when contained in commercial packs, makes spillage unlikely. 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.

7. HANDLING AND STORAGE

Precautions for Safe Handling:	No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. 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.

Conditions for Safe Storage, including any Incompatibilities: 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.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:

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"

Biological Monitoring: No data available

Control Banding: No data available

Engineering Controls: Refer to COSHH assessment (Control of Substances Hazardous to Health (Amendment) Regulations 2004). Engineering controls should be used in preference to personal protective equipment wherever practicable. Refer also to COSHH Essentials.

Individual Protection Measures, for example, Personal Protective Equipment (PPE): In normal use and handling conditions please refer to the label and/or leaflet. In all other cases, the following recommendations would apply.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Powder
Colour:	Off-white
Odour:	Odourless
Melting Point:	Not applicable
Boiling Point:	Not applicable
Flash Point:	Does not flash
Autoignition Temperature:	Not available
pH:	Not available
Solubility:	Partly soluble in/with water
Partition Coefficient n-octanol/water:	Not available
Vapour Pressure:	Not available
Density:	Not available
Oxidising properties:	Contains an oxidising agent; may assist combustion.

10. STABILITY AND REACTIVITY

Reactivity: No hazardous reactions known if used for its intended purpose.

Chemical Stability: Considered stable under normal conditions.

Possibility of Hazardous Reactions: Reacts with combustible material.
Reacts with acids liberating toxic gas (chlorine).

Conditions to Avoid: Avoid formation of dust.
Keep away from heat and sources of ignition.
Keep away from static electricity.

Incompatible Materials: Store only in the original container.
Incompatible with strong acids.
Incompatible with alkalis (strong bases).
Incompatible with halogenated substances.

Hazardous Decomposition Products: No decomposition products expected under normal conditions of use.
Decomposition products may include oxygen, ammonium chloride, carbon oxides, nitrogen oxides, ammonia, hydrocyanic acid (HCN).

11. TOXICOLOGICAL INFORMATION

Acute Toxicity: Harmful if swallowed.
Classification based on calculation and concentration thresholds.

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.

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 (90 days)

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

Symptoms related to Exposure:

Eye Contact:
May cause redness and swelling.
Skin Contact:
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.

12. ECOLOGICAL INFORMATION

Ecotoxicity:

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) 0.00127 mg/L (48 hr)
EL50 (aquatic algae) >1.13 mg/L (72 hr)

Persistence and Degradability:

Potassium chlorate: Biodegradable
Permethrin: Not readily biodegradable in water

Bioaccumulative Potential:

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

Mobility in Soil:

No information available.

PBT and vPvB Assessment:

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

Other Adverse Effects:

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Containers and 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.

14. TRANSPORT INFORMATION

Transport Classification:

Road and Rail Transport: Not dangerous goods under the ADG7 when being transported in IBCs or other receptacles <500 L (kg), (Special Provision AU01).
Marine and Air: Classified as Dangerous Goods for transport by sea and air according to the criteria of the UN Model Regulations for Transport of Dangerous Goods 13th Edition. This classification is in

	principle not valid for carriage by tank vessel on inland waterways. Please refer to the manufacturer for further information.
UN number:	3077
Proper Shipping Name or Technical Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (PERMETHRIN MIXTURE)
Transport Hazard Class:	9
Packing Group Number:	III
Environmental Hazards for Transport Purposes:	Yes
Special Precautions for User:	Refer to sections 4-8
Hazchem code:	2Z

15. REGULATORY INFORMATION

APVMA	Registered according to the Agricultural and Veterinary Chemicals Act 1994 (Cwlth). APVMA approval number: 59694
SUSMP	Schedule 5

16. OTHER INFORMATION

Prepared in accordance with Safe Work Australia's 'Preparation of safety data sheets for hazardous chemicals; Code of Practice; July 2020'

Date of Preparation or Revision:	November 2021.

IMPERATOR® SMOKE GENERATOR INSECTICIDE Date of Issue: November 2021

Reason for Revision: 5-year review. Sections revised:
Section 1: Contact details updated
Sections 2, 4-13: Updated according to manufacturer SDS version Match 2020

Abbreviations and Acronyms:
ADG7 – Australian Dangerous Goods Code for Road and Rail Transport, 7th Edition
APVMA – Australian Pesticides and Veterinary Medicines Authority
EL – Effective Loading
GHS – Globally Harmonised System of Classification and Labelling of Chemicals
LC – Lethal Concentration
LD – Lethal Dose
NOAEL – No Observed Adverse Effect Level
PBT – Persistent, Bioaccumulative and Toxic
REACH – Registration, Evaluation, Authorisation and Restriction of Chemicals
SWA – Safe Work Australia
SUSMP – Standard for the Uniform Scheduling of Medicines and Poisons
TWA – Time Weighted Average
vPvB – very Persistent and very Bioaccumulative

Data sources: Manufacturer and published data.

This SDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

The opinions expressed herein are those of qualified experts with the manufacturer. Since the use of this information and of these opinions and the conditions of use of this product are not within the control of AgNova Technologies Pty Ltd, it is the user's obligation to determine the conditions of safe use of the product.

END OF SDS