

## SAFETY DATA SHEET

**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

## 1.1 Product identifier

- Product Name: 22.5% ACTELLIC SMOKE GENERATOR
- Contains: Pirimiphos-methyl (ISO)  
4-methylpentan-2-one  
Potassium chlorate
- UFI: YV10-00VM-200H-Y90J

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

- Use of the substance/mixture: Insecticidal Smoke Generator (FU)
- Use advised against: For professional use only.

## 1.3 Details of the supplier of the safety data sheet

- Responsible Entity: Octavius Hunt (Europe) Limited
- Address of Responsible Entity: The Black Church  
St Mary's Place  
Dublin  
D07 P4AX  
Ireland
- Name of Manufacturer: Octavius Hunt Ltd
- Address of Manufacturer: Redfield  
Bristol  
BS5 9NQ  
UK
- Telephone: +44 (0) 117 955 5304
- Email: [info@octavius-hunt.co.uk](mailto:info@octavius-hunt.co.uk)
- Website: [www.octaviushunt.co.uk](http://www.octaviushunt.co.uk)

## 1.4 Emergency telephone number

- Emergency Telephone: Cyprus: Phone 1401  
Czech: +420 224 919 293  
Greece: (0030) 2107793777  
Ireland: +353 (1) 809 2166 (8.00 a.m. to 10.00 p.m. 7 days a week)  
Ireland Healthcare Professionals: +353 (1) 809 2566 (24-hour service)  
Poland: +48 58 301 65 16 or +48 58 349 2831  
Slovakia: Phone 112  
France: +33 (0)1 45 42 59 59  
Hungary: +36 80 201 199  
Italy: +39 38 224 444

**SECTION 2: Hazards identification**

## 2.1 Classification of the substance or mixture

- Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: Acute Tox. 4, H332; Carc. 2, H351; STOT SE 1, H370; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; EUH401
- Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

## 2.2 Label elements



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**SECTION 2: Hazards identification (....)**

Signal Word: Danger

## Hazard statements

- H332 - Harmful if inhaled.
- H351 - Suspected of causing cancer.
- H370 - Causes damage to organs (central nervous system)
- H372 - Causes damage to organs (nervous system) through prolonged or repeated exposure
- H410 - Very toxic to aquatic life with long lasting effects.

## Precautionary statements

- P201 - Obtain special instructions before use.
- P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
- P273 - Avoid release to the environment.
- P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P308+P311 - IF exposed or concerned: Call a POISON CENTER/doctor.
- P501 - Dispose of contents/container to an approved hazardous/special waste disposal facility in accordance with local and national regulations

## Supplemental Hazard information (EU)

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

## 2.3 Other hazards

- Ignites readily. Product burns without a flame to give a dense white harmful smoke.
- This product contains < 1% respirable crystalline silica
- This product contains an anticholinesterase compound. Do not use if under medical advice not to work with such compounds.
- Not a PBT according to REACH Annex XIII
- Not a vPvB according to REACH Annex XIII
- Does not contain any substances with endocrine disrupting properties

**SECTION 3: Composition/information on ingredients**

## 3.1 Substances

- Not applicable

## 3.2 Mixtures

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

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL / OEL
Kaolin	20 - 30% w/w	1332-58-7	310-194-1	Not Classified	-	-	Yes
Pirimiphos-methyl (ISO)	22.5% w/w	29232-93-7	249-528-5	Acute Tox. 4, H302 STOT SE 1, H370 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M factor (Acute) = 1000 M factor (Chronic) = 1000 ATE (oral) = 1414 mg/kg	-	Yes
Potassium chlorate	13.5 - 16%	3811-04-9	223-289-7	Ox. Liq. 1, H271 Acute Tox. 4, H302 Acute Tox. 4, H332 Aquatic Chronic 2, H411		01-2119494917-18-XXXX	No
Silane, dichlorodimethyl-, reaction products with silica	10 - 20%	68611-44-9	271-893-4	Not classified (Substance with a workplace exposure limit)	-	*	Yes

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**SECTION 3: Composition/information on ingredients (....)**

4-methylpentan-2-one; isobutyl methyl ketone	≥ 0.245% - < 2.45%	108-10-1	203-550-1	Flam. Liq. 2, H225 Eye Irrit. 2, H319 Acute Tox. 4, H332 STOT SE 3, H336 Carc. 2, H351 EUH066	ATE (inhalation) = 11 mg/L (Vapours)	01- 2119473980 -30-XXXX	Yes
Quartz (crystalline silica)	< 1%	14808-60-7	238-878-4	STOT RE 1, H372	-	-	Yes

\* It is understood that Silane, dichlorodimethyl-, reaction products with silica (CAS 68611-44-9) is a chemically surface treated silica.

As of 11/11/2020, ECHA's position on surface treated substances is that chemically surface treated substances should not be registered as such under REACH, but the following requirements should be fulfilled:

1. Registration of the basis substance (macroscopic particle)
2. Registration of the surface treating substance
3. Description of the use "surface treatment" in the registration dossier of the surface treating substance and in the registration dossier of the basis substance
4. Any specific hazards or risks of the surface treated substance should be appropriately covered by the classification and labelling and by the chemicals safety assessment and resulting exposure scenarios.

REACH Registration Numbers:

Basis substance: Silica, amorphous: 01-2119379499-16-XXXX

Surface Treating Agent: Dichlorodimethylsilane: 01-2119437250-51-XXX

The data in this SDS for Silane, dichlorodimethyl-, reaction products with silica will be that of the basis substance, Silica, amorphous (CAS 7631-86-9)

**SECTION 4: First aid measures**

Rescuers should put on approved personal protective equipment (PPE) before administering first aid

Rescuers should take suitable precautions to avoid becoming casualties themselves

If medical advice is needed, have product container or label at hand.

**4.1 Description of first aid measures****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  
Get 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.

**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

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**SECTION 4: First aid measures (....)**

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

**4.2 Most important symptoms and effects, both acute and delayed****Contact with eyes**

May cause redness and irritation  
May cause redness and swelling

**Contact with skin**

Can be absorbed via the skin (see symptoms under 'Ingestion').  
May cause redness and irritation  
Possible blistering of the skin of affected areas  
Repeated exposure may cause skin dryness or cracking

**Ingestion**

Poisoning produces effects associated with anticholinesterase activity which may include nausea, diarrhoea, and vomiting  
Can form methaemoglobin in the blood, causing cyanosis  
May cause burns to mouth and throat  
May cause stomach pain  
There may be bleeding from the mouth or nose.

**Inhalation**

Can be absorbed via the lungs (see symptoms under 'Ingestion').  
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 Indication of any immediate medical attention and special treatment needed**

- Actellic Smoke Generator is an organophosphorus insecticide, which inhibits cholinesterase activity, and interferes in nerve pulse transmission. Onset of symptoms may be delayed for several hours.
- Administer atropine sulphate as antidote. Considerable amounts of atropine may be necessary.
- Atropine must NOT be given to cyanosed patients; administer oxygen first.
- Do NOT use opiates or barbiturates.
- If convulsions occur, administer diazepam (10 mg intravenously).
- Consider taking venous blood sample for determination of blood cholinesterase activity (use heparin tube).
- Cholinesterase reactivators (Pralidoxime) should, if possible, be given at the same time as atropine. They are not effective after 24 hours post exposure and are not substitutes for atropine.
- Following ingestion, adsorbents such as charcoal may be of value.
- Risk of methemoglobinemia. Not to be treated with methylthionine.

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**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media: Sand/earth; alcohol resistant 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 substance or 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.

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**SECTION 5: Firefighting measures (....)**

- Decomposition products may include oxygen, potassium chloride, carbon oxides, organic vapours

**5.3 Advice for firefighters**

- 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.

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**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
  - 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

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**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

- Read label before use.
- Prevent formation of dust
- Take precautionary measures against static discharges
- Keep out of treated areas for at least 4 hours after treatment
- Ventilate as per the label instruction before re-entry

## SECTION 7: Handling and storage (....)

- If the operator is unable to leave the area immediately after lighting the product, then respiratory protection must be worn
- Avoid contact with skin and eyes
- Wear protective clothing as per section 8
- Do not eat, drink or smoke when using this product.
- Keep away from heat and sources of ignition
- Avoid contact with acids and alkalis
- Keep away from combustible material
- 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 safe 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 locked up and out of reach of children
- Keep away from combustible material
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep away from food, drink and animal feedingstuffs
- Incompatible with strong acids
- Incompatible with alkalis (strong bases)
- Incompatible with halogenated substances

### 7.3 Specific end use(s)

Insecticidal Smoke Generator (FU)

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.  
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents). Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Occupational exposure to respirable crystalline silica dust should be monitored and controlled

Kaolin

Occupational Exposure Limit Value (8-hour reference period) 2 mg/m<sup>3</sup> (IE. Respirable dust)

Pirimiphos-methyl (ISO)

Occupational Exposure Limit Value (8-hour reference period) 3 mg/m<sup>3</sup> (Supplier's value. Can be absorbed through the skin)

Potassium chlorate

DNEL (inhalational) 700 µg/m<sup>3</sup> Industry, Long Term, Systemic Effects  
 DNEL (dermal) 5 mg/kg bw/day Industry, Long Term, Systemic Effects  
 DNEL (oral) 50 µg/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

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**SECTION 8: Exposure controls/personal protection (....)**

PNEC sediment (freshwater) 4.14 mg/kg  
 PNEC sediment (marine water) 4.14 mg/kg  
 PNEC terrestrial (soil) 3.83 mg/kg  
 PNEC secondary poisoning (food) 12.78 mg/kg

Silane, dichlorodimethyl-, reaction products with silica

Occupational Exposure Limit Value (8-hour reference period) 6 mg/m<sup>3</sup> (IE. Total inhalable dust)  
 Occupational Exposure Limit Value (8-hour reference period) 2.4 mg/m<sup>3</sup> (IE. Respirable dust)  
 DNEL (inhalational) 4 mg/m<sup>3</sup> (derived by Synthetic Amorphous Silica REACH Consortium)

4-methylpentan-2-one; isobutyl methyl ketone

(EU) OELV (long term TWA) 20 mg/m<sup>3</sup> 83 ppm  
 (EU) OELV (short term limit value) 50 mg/m<sup>3</sup> 208 ppm  
 Occupational Exposure Limit Value (8-hour reference period) 20 ppm 83 mg/m<sup>3</sup> (IE. Can be absorbed through the skin))  
 Occupational Exposure Limit Value (15-minute reference period) 50 ppm 208 mg/m<sup>3</sup> (IE. Can be absorbed through the skin)  
 BMGV (Biological Monitoring Guidance Value) (IE) 1 mg MIBK/L urine. Sampling Time: End of shift. (Source: ACGIH)  
 DNEL (inhalational) 83 mg/m<sup>3</sup> Industry, Long Term, Systemic Effects  
 DNEL (inhalational) 208 mg/m<sup>3</sup> Industry, Acute/Short Term, Systemic Effects  
 DNEL (inhalational) 83 mg/m<sup>3</sup> Industry, Long Term, Local Effects  
 DNEL (inhalational) 208 mg/m<sup>3</sup> Industry, Acute/Short Term, Local Effects  
 DNEL (dermal) 11.8 mg/kg bw/day Industry, Long Term, Systemic Effects  
 DNEL (inhalational) 14.7 mg/m<sup>3</sup> Consumer, Long Term, Systemic Effects  
 DNEL (inhalational) 155.2 mg/m<sup>3</sup> Consumer, Acute/Short Term, Systemic Effects  
 DNEL (inhalational) 14.7 mg/m<sup>3</sup> Consumer, Long Term, Local Effects  
 DNEL (inhalational) 155.2 mg/m<sup>3</sup> Consumer, Acute/Short Term, Local Effects  
 DNEL (dermal) 4.2 mg/kg bw/day Consumer, Long Term, Systemic Effects  
 DNEL (oral) 4.2 mg/kg bw/day Consumer, Long Term, Systemic Effects  
 PNEC aqua (freshwater) 600 µg/L  
 PNEC aqua (intermittent releases, freshwater) 1.5 mg/L  
 PNEC aqua (marine water) 60 µg/L  
 PNEC (STP) 27.5 mg/L  
 PNEC sediment (freshwater) 8.27 mg/kg  
 PNEC sediment (marine water) 830 µg/kg  
 PNEC terrestrial (soil) 1.3 mg/kg

Quartz (crystalline silica)

(EU) OELV (long term TWA) 0.1 mg/m<sup>3</sup>  
 Occupational Exposure Limit Value (8-hour reference period) 0.1 mg/m<sup>3</sup> (IE. Respirable crystalline silica)

**8.2 Exposure controls**

- Selection and use of personal protective equipment should be based on a risk assessment of exposure potential
- Engineering controls
  - Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines
  - Provide appropriate exhaust ventilation at places where airborne dust is generated
- Respiratory protection
  - If the operator is unable to leave the area immediately after lighting the product, then respiratory protection must be worn
  - 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



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**SECTION 8: Exposure controls/personal protection (....)**

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.

Nitrile rubber are recommended

Glove material: Nitrile rubber  
Thickness: 0.5 mm  
Breakthrough time: > 480 min  
Reference: Literature

- Eye/face protection  
None required for normal handling of product  
If there is a risk of product getting into eyes, wear safety glasses approved to standard EN 166.
- Thermal hazards  
Not applicable
- 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**

- Physical state: Solid. Powder in a metal pot.
- Colour: Off-white
- Odour: Mild, characteristic odour
- Melting point/freezing point: Not determined; No data available
- Boiling point or initial boiling point and boiling range: Not determined; No data available
- Flammability: Combustible solid
- Lower and upper explosion limit: No data available
- Flash point: Not applicable
- Auto-ignition temperature: > 475 °C
- Decomposition temperature: No data available
- pH: No data available
- Kinematic viscosity: Not applicable
- Solubility: Partially soluble in water
- Partition coefficient n-octanol/water (log value): See subsection 12.6
- Vapour pressure: No data available
- Density and/or relative density: Not determined; No information available
- Relative vapour density: No data available
- Particle characteristics: No data available

**9.2 Other information**

- Oxidising properties: Contains an oxidising agent; may assist combustion
- Bulk Density: 940 kg/m<sup>3</sup>
- Minimum Ignition Energy (MIE): > 500 mJ



## 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 combustible material
- Incompatible with strong acids
- Incompatible with alkalis (strong bases)
- Incompatible with halogenated substances

### 10.6 Hazardous decomposition products

- Decomposition products may include oxygen, potassium chloride, carbon oxides, organic vapours

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

- Acute Toxicity  
Harmful if inhaled.  
Classification based on test data  
ATE mix (inhal) 3.03 - 3.61

#### Substances

Chemical Name	LD50 (oral, rat)	LC50 (inhalation, rat)	LD50 (dermal, rabbit)
Kaolin	> 2 000 mg/kg	No data available	> 2 000 mg/kg
Pirimiphos-methyl (ISO)	ATE = 1 414 mg/kg	(4 h) > 5.04 mg/L	> 2 000 mg/kg (rat)
Potassium chlorate	5 000 mg/kg	(4 h) 5.1 mg/L	> 2 000 mg/kg
Silane, dichlorodimethyl-, reaction products with silica	> 5 110 mg/kg	(4 h) > 0.691 mg/L	> 5 000 mg/kg
4-methylpentan- 2-one; isobutyl methyl ketone	2 080 mg/kg	ATE = 11 mg/L (Vapours)	2 000 mg/kg (rat)
Quartz (crystalline silica)	No data available	No data available	No data available

- Skin corrosion/irritation  
Based on available data, the classification criteria are not met

#### Substances

Chemical Name	Irritation/corrosion
Kaolin	No data available
Pirimiphos-methyl (ISO)	No adverse effect observed (not irritating)
Potassium chlorate	No adverse effect observed (not irritating)

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Silane, dichlorodimethyl-, reaction products with silica	No adverse effect observed (not irritating)
4-methylpentan- 2-one; isobutyl methyl ketone	No adverse effect observed (not irritating)
Quartz (crystalline silica)	No data available

## - Serious eye damage/irritation

Based on available data, the classification criteria are not met

## Substances

Chemical Name	Irritation/corrosion
Kaolin	No data available
Pirimiphos-methyl (ISO)	No adverse effect observed (not irritating)
Potassium chlorate	No adverse effect observed (not irritating)
Silane, dichlorodimethyl-, reaction products with silica	No adverse effect observed (not irritating)
4-methylpentan- 2-one; isobutyl methyl ketone	Adverse effect observed (irritating)
Quartz (crystalline silica)	No data available

## - Respiratory or skin sensitisation

Based on available data, the classification criteria are not met

Pirimiphos-methyl is listed in Annex III of REACH as # Suspected respiratory sensitiser: The Toolbox profiler 'Respiratory sensitisation' gives an alert for respiratory sensitisation # Suspected skin sensitiser: The Toolbox profiler 'Protein binding alerts for skin sensitization by OASIS v1.3' gives an alert for skin sensitisation

## Substances

Chemical Name	Skin sensitisation	Respiratory sensitisation
Kaolin	No study available	No data available
Pirimiphos-methyl (ISO)	No data available	No data available
Potassium chlorate	No adverse effect observed (not sensitising)	No study available
Silane, dichlorodimethyl-, reaction products with silica	No adverse effect observed (not sensitising)	No adverse effect observed (not sensitising)
4-methylpentan- 2-one; isobutyl methyl ketone	No adverse effect observed (not sensitising)	No study available
Quartz (crystalline silica)	No data available	No data available

## - Germ cell mutagenicity

Based on available data, the classification criteria are not met

Pirimiphos-methyl is listed in Annex III of REACH as # Suspected mutagen: The Toolbox profiler 'DNA alerts for AMES, MN and CA by OASIS v.1.3' gives an alert for mutagenicity; CAESAR Mutagenicity model in VEGA (Q)SAR platform predicts that the chemical is Mutagen (moderate reliability)

Quartz (SiO<sub>2</sub>) is listed in Annex III of REACH as # Suspected mutagen: The outcome in CTA assay is positive according to ISSCTA

## Substances

Chemical Name	Toxicity - In Vitro	Toxicity - In Vivo
Kaolin	No data available	No data available
Pirimiphos-methyl (ISO)	No data available	No adverse effect observed (negative)

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Potassium chlorate	No adverse effect observed (negative)	No adverse effect observed (negative)
Silane, dichlorodimethyl-, reaction products with silica	Not mutagenic	No data available
4-methylpentan- 2-one; isobutyl methyl ketone	No adverse effect observed (negative)	No adverse effect observed (negative)
Quartz (crystalline silica)	No data available	No data available

**- Carcinogenicity**

Suspected of causing cancer.

Classification based on calculation and concentration thresholds

Pirimiphos-methyl is listed in Annex III of REACH as # Suspected carcinogen: The Toolbox profiler 'Carcinogenicity (genotox and nongenotox) alerts by ISS' gives an alert for carcinogenicity

Methyl isobutyl ketone (4-methylpentan-2-one) is classified by IARC as Group 2B (possibly carcinogenic to humans)

Quartz (SiO<sub>2</sub>) is listed in Annex III of REACH as # Suspected carcinogen: IARC monographs classified the substance as carcinogenic or probably/possibly carcinogenic

Crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1). (IARC Monograph 100C, 2012)

Exposure in high concentrations or over prolonged periods of time can lead to lung disease (silicosis) and an increased risk of lung cancer

**Substances**

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Kaolin	No data available	No data available	No data available
Pirimiphos-methyl (ISO)	No data available	No data available	No data available
Potassium chlorate	No data available	No data available	No data available
Silane, dichlorodimethyl-, reaction products with silica	No data available	Some positive data exist, but the data are not sufficient for classification	No data available
4-methylpentan- 2-one; isobutyl methyl ketone	No data available	No data available	No data available
Quartz (crystalline silica)	No data available	No data available	No data available

**- Reproductive toxicity**

Based on available data, the classification criteria are not met

Pirimiphos-methyl is listed in Annex III of REACH as # Suspected toxic for reproduction:

Developmental/Reproductive Toxicity library (PG) in VEGA (Q)SAR platform predicts that the chemical is Toxicant (moderate reliability)

**Substances**

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Kaolin	No data available	No data available	No data available
Pirimiphos-methyl (ISO)	No data available	No data available	No data available
Potassium chlorate	500 mg/kg bw/day (Effect on fertility) 475 mg/kg bw/day (Effect on developmental toxicity)	No data available	No data available
Silane, dichlorodimethyl-, reaction products with silica	497 - 509 mg/kg bw/day (Effect on fertility) 1 350 mg/kg bw/day (Effect on developmental toxicity)	No data available	No data available
4-methylpentan- 2-one; isobutyl methyl ketone	No data available	No data available	No data available
Quartz (crystalline silica)	No data available	No data available	No data available

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**SECTION 11: Toxicological information (....)**

- Specific target organ toxicity (STOT) - single exposure  
This product is classified as STOT SE 1, causes damage to organs (central nervous system)  
Classification based on calculation and concentration thresholds

## Substances

Chemical Name	Route	Remarks
Kaolin	Respiratory	No data available
Pirimiphos-methyl (ISO)	Central nervous system	STOT SE 1, H370
Potassium chlorate	Respiratory	No study available
Silane, dichlorodimethyl-, reaction products with silica	Respiratory	No study available
4-methylpentan-2-one; isobutyl methyl ketone	Respiratory Central nervous system	No adverse effect observed (not irritating) STOT SE 3, H336
Quartz (crystalline silica)	Respiratory	No data available

- Specific target organ toxicity (STOT) - repeated exposure  
This product is classified as STOT RE 1, causes damage to organs (nervous system) through prolonged or repeated exposure (  
Classification based on calculation and concentration thresholds

## Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Kaolin	No data available	No data available	No data available
Pirimiphos-methyl (ISO)	No data available	No data available	No data available
Potassium chlorate	100 mg/kg bw/day	No data available	No data available
Silane, dichlorodimethyl-, reaction products with silica	2 500 mg/kg bw/day	1.3 - 46 mg/m <sup>3</sup>	No data available
4-methylpentan-2-one; isobutyl methyl ketone	250 mg/kg bw/day	450 ppm	No data available
Quartz (crystalline silica)	No data available	No data available	No data available

- Aspiration hazard  
Based on available data, the classification criteria are not met
- Contact with eyes  
May cause redness and irritation  
May cause redness and swelling
- Contact with skin  
Can be absorbed via the skin (see symptoms under 'Ingestion').  
May cause redness and irritation  
Possible blistering of the skin of affected areas  
Repeated exposure may cause skin dryness or cracking
- Ingestion  
Poisoning produces effects associated with anticholinesterase activity which may include nausea, diarrhoea, and vomiting  
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  
Can be absorbed via the lungs (see symptoms under 'Ingestion').

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**SECTION 11: Toxicological information (....)**

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

## 11.2 Information on other hazards

- Does not contain any substances with endocrine disrupting properties

**SECTION 12: Ecological information**

## 12.1 Toxicity

- Very toxic to aquatic life with long lasting effects.
- Classification based on calculation and concentration thresholds
- M factor (Acute) Pirimiphos-methyl = 1 000
- M factor (Chronic) Pirimiphos-methyl = 1 000

## Substances

Chemical Name	LC <sub>50</sub> (fish)	EC <sub>50</sub> (aquatic invertebrates)	EC <sub>50</sub> (aquatic algae)
Kaolin	(4 days) > 1 000 mg/L	(48 h) > 1 000 mg/L	(72 h) > 1 000 mg/L
Pirimiphos-methyl (ISO)	(4 days) 404 µg/L	(48 h) 314 ng/L	(72 h) 3.38 mg/L
Potassium chlorate	(4 days) 1 g/L	(48 h) 1 g/L	(72 h) 1.9 - 500 mg/L
Silane, dichlorodimethyl-, reaction products with silica	(4 days) 1.033 - 5 g/L	(48 h) 5 g/L	(72 h) 173.1 - 500 mg/L
4-methylpentan-2-one; isobutyl methyl ketone	(4 days) 179 mg/L	(48 h) 200 mg/L	No data available
Quartz (crystalline silica)	No data available	No data available	No data available

## 12.2 Persistence and degradability

## Substances

Chemical Name	Biodegradation
Kaolin	Not applicable, inorganic
Pirimiphos-methyl (ISO)	Half-life in water = 4 - 6 days Product is not persistent
Potassium chlorate	Under test conditions no biodegradation observed (100%)
Silane, dichlorodimethyl-, reaction products with silica	Not applicable, inorganic
4-methylpentan-2-one; isobutyl methyl ketone	Readily biodegradable in water (100%)
Quartz (crystalline silica)	Not applicable, inorganic

## 12.3 Bioaccumulative potential

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

## Substances

Chemical Name	Bioconcentration Factor (BCF)	Log K <sub>ow</sub>
Kaolin	Not applicable, inorganic	Not applicable, inorganic
Pirimiphos-methyl (ISO)	High bioaccumulation potential	Log Pow 3.9 @ 20 °C and pH4 Log Pow 4.2 @ 20 °C and pH 5 - 7

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**SECTION 12: Ecological information (....)**

Potassium chlorate	Low potential for bioaccumulation (Log Kow < 3)	-2.9 @ 20 °C and pH 0
Silane, dichlorodimethyl-, reaction products with silica	Bioaccumulation is not expected	Log Pow 0.53 @ 25 °C
4-methylpentan-2-one; isobutyl methyl ketone	Low potential for bioaccumulation (Log Kow < 3)	1.9 @ 20 °C and pH 6.7
Quartz (crystalline silica)	No data available	No data available

**12.4 Mobility in soil**

- Insoluble in water

**Substances**

Chemical Name	Adsorption/desorption	Mobility
Kaolin	Insoluble in water	No data available
Pirimiphos-methyl (ISO)	Dissipation time: 8.3 days Percentage dissipation: 50 % (DT50) Product is not persistent	Low mobility in soil
Potassium chlorate	Low potential for adsorption	Soluble in water
Silane, dichlorodimethyl-, reaction products with silica	No data available	No data available
4-methylpentan-2-one; isobutyl methyl ketone	Low potential for adsorption	Soluble in water
Quartz (crystalline silica)	No data available	No data 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 Endocrine disrupting properties**

- Does not contain any substances with endocrine disrupting properties

**12.7 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 5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity; HP 6 Acute Toxicity; HP 7 Carcinogenic; HP 14 Ecotoxic

**SECTION 14: Transport information**

UN 3077 and UN 3082, when carried in single or combination packagings containing a net quantity per single or inner packaging of 5L/kg or less, are not subject to the provisions of ADR, RID, IMDG or IATA, provided the package meets the general packing quality provisions.

**SECTION 14: Transport information (....)****14.1 UN number or ID number**

- UN No.: 3077

**14.2 UN proper shipping name**

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

**14.3 Transport hazard class(es)**

- Hazard Class: 9

**14.4 Packing group**

- Packing Group: III

**14.5 Environmental hazards**

- Marine Pollutant

**14.6 Special precautions for user**

- Not Classified

**14.7 Maritime transport in bulk according to IMO instruments**

- Not applicable

**14.8 Road/Rail (ADR/RID)**

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

**14.9 Sea (IMDG)**

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

**14.10 Air (ICAO/IATA)**

- Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Pirimiphos-methyl)
- 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) 2020/878)



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**SECTION 15: Regulatory information (....)**

- Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe
- Use plant protection products safely. Always read the label and product information before use
- UN 3077 and UN 3082, when carried in single or combination packagings containing a net quantity per single or inner packaging of 5L/kg or less, are not subject to the provisions of ADR, RID, IMDG or IATA, provided the package meets the general packing quality provisions.
- Pirimiphos-methyl is listed in Annex III of REACH as # Harmonised classification for acute toxicity: The substance is listed in Annex VI of CLP as: Acute Tox. 4 # Harmonised classification for aquatic toxicity: The substance is listed in Annex VI of CLP as: Aquatic Acute 1; The substance is listed in Annex VI of CLP as: Aquatic Chronic 1 # Suspected carcinogen: The Toolbox profiler 'Carcinogenicity (genotox and nongenotox) alerts by ISS' gives an alert for carcinogenicity # Suspected hazardous to the aquatic environment: DEMETRA Daphnia Magna toxicity model in VEGA (Q)SAR platform predicts that the chemical has a 48h EC50 of 0 mg/L (EXPERIMENTAL value); EPA Daphnia Magna toxicity model in VEGA (Q)SAR platform predicts that the chemical has a 48h EC50 of 0.0002 mg/L (EXPERIMENTAL value); Fathead Minnow toxicity model (EPA) in VEGA (Q)SAR platform predicts that the chemical has a 96h LC50 of 2.47 mg/L (EXPERIMENTAL value); The Danish QSAR database contains information indicating that the substance has a 96h LC50 to fish of <1 mg/L; The Danish QSAR database contains information indicating that the substance has a 48h EC50 to Daphnia of <1 mg/L; The Danish QSAR database contains information indicating that the substance has a 96h EC50 to green algae of 1.13 mg/L # Suspected mutagen: The Toolbox profiler 'DNA alerts for AMES, MN and CA by OASIS v.1.3' gives an alert for mutagenicity; CAESAR Mutagenicity model in VEGA (Q)SAR platform predicts that the chemical is Mutagen (moderate reliability) # Suspected persistent in the environment: Soil OASIS database in the Toolbox contains at least one experimental data from biodegradation in soil test reporting a value equal or greater than 120 days; The Danish QSAR database contains information indicating that the substance is predicted as non readily biodegradable # Suspected respiratory sensitiser: The Toolbox profiler 'Respiratory sensitisation' gives an alert for respiratory sensitisation # Suspected skin sensitiser: The Toolbox profiler 'Protein binding alerts for skin sensitization by OASIS v1.3' gives an alert for skin sensitisation # Suspected toxic for reproduction: Developmental/Reproductive Toxicity library (PG) in VEGA (Q)SAR platform predicts that the chemical is Toxicant (moderate reliability)
- Quartz (crystalline silica) is listed in Annex III of REACH as # Suspected carcinogen: IARC monographs classified the substance as carcinogenic or probably/possibly carcinogenic # Suspected mutagen: The outcome in CTA assay is positive according to ISSCTA
- Restrictions on use according to Annex XVII to REACH Regulation: Not applicable
- Seveso III Directive (2012/18/EU, Dangerous Substances in Annex I: Class H3 (STOT SE 1), LT 50 te, UT 200 te  
Class E1 (Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1), LT 100 te, UT 200 te

**15.2 Chemical safety assessment**

- A REACH chemical safety assessment has been carried out for some of the ingredients in this product

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**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

**Training advice**

Workers must be informed of the presence of hazardous ingredients and trained in the proper use and handling of this product as required under applicable regulations

**SECTION 16: Other information (....)**

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

- Acute Tox. 4, H332: Classification based on test data
- Carc. 2, H351: Classification based on calculation and concentration thresholds
- STOT SE 1, H370: Classification based on calculation and concentration thresholds
- STOT RE 1, H372: Classification based on calculation and concentration thresholds
- Aquatic Acute 1, H400: Classification based on calculation and concentration thresholds
- Aquatic Chronic 1, H410: Classification based on calculation and concentration thresholds

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

- H225: Highly flammable liquid and vapour.
- H271: May cause fire or explosion; strong oxidiser
- H302: Harmful if swallowed
- H332: Harmful if inhaled
- H336: May cause drowsiness or dizziness
- H351: Suspected of causing cancer
- H370: Causes damage to organs
- H372: Causes damage to organs through prolonged or repeated exposure
- 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
- EUH066: Repeated exposure may cause skin dryness or cracking
- EUH401: To avoid risks to human health and the environment, comply with the instructions for use

**Acronyms**

- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstracts Service
- DNEL: Derived No-Effect Level
- EC: European Community
- EC<sub>50</sub>: Effective Concentration, 50%
- GHS: Globally Harmonised System
- IARC: International Agency for Research on Cancer
- LC<sub>50</sub>: Lethal Concentration, 50%
- LD<sub>50</sub>: 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
- SCL: Specific Concentration Limit
- vPvB: very Persistent and very Bioaccumulative
- WEL: Workplace Exposure Limit

--- end of safety datasheet ---