

# Callington 1-Shot Aircraft Insecticide

Callington Haven Pty Ltd

Chemwatch Hazard Alert Code: 2

Chemwatch: 62764

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Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

L.GHS.USA.EN

## SECTION 1 IDENTIFICATION

### Product Identifier

Product name	Callington 1-Shot Aircraft Insecticide
Synonyms	Not Available
Proper shipping name	Aerosols
Other means of identification	Not Available

### Recommended use of the chemical and restrictions on use

Relevant identified uses	Application is by spray atomisation from a hand held aerosol pack Used to kill crawling and flying insects in aircraft cargo holds.
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### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Callington Haven Pty Ltd
Address	30 South Street NSW Rydalmere 2116 Australia
Telephone	+61 2 9898 2731
Fax	+61 2 9475 0449
Website	www.callingtonhaven.com
Email	customerservice@callington.com

### Emergency phone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hours), +61 3 9573 3112 (24 hours)
Other emergency telephone numbers	Not Available

## CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
877 715 9305	877 715 9305	+612 9186 1132

Once connected and if the message is not in your preferred language then please dial 01

Una vez conectado y si el mensaje no está en su idioma preferido, por favor marque 02




## SECTION 2 HAZARD(S) IDENTIFICATION

### Classification of the substance or mixture

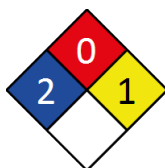
#### CHEMWATCH HAZARD RATINGS

Continued...

Callington 1-Shot Aircraft Insecticide

	Min	Max
Flammability	0	
Toxicity	0	
Body Contact	1	
Reactivity	1	
Chronic	2	

NFPA 704 diamond




0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme

Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

<b>Classification</b>	Skin Sensitizer Category 1, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1
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Label elements

<b>GHS label elements</b>	
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<b>SIGNAL WORD</b>	<b>WARNING</b>
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Hazard statement(s)

<b>H317</b>	May cause an allergic skin reaction.
<b>H410</b>	Very toxic to aquatic life with long lasting effects.

Hazard(s) not otherwise specified

Not Applicable

Precautionary statement(s) Prevention

<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P261</b>	Avoid breathing mist/vapours/spray.
<b>P273</b>	Avoid release to the environment.
<b>P272</b>	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

<b>P363</b>	Wash contaminated clothing before reuse.
<b>P302+P352</b>	IF ON SKIN: Wash with plenty of soap and water.
<b>P333+P313</b>	If skin irritation or rash occurs: Get medical advice/attention.
<b>P391</b>	Collect spillage.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

<b>P501</b>	Dispose of contents/container in accordance with local regulations.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
		phenothrin, as
51186-88-0	2	<u>d-phenothrin</u>
52645-53-1	2	<u>permethrin</u>
Not Available	>60	propellant, as HFC
		NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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**SECTION 4 FIRST-AID MEASURES**

**Description of first aid measures**

<b>Eye Contact</b>	<p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold the eyelids apart and flush the eye with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Remove any adhering solids with industrial skin cleansing cream.</li> <li>▶ <b>DO NOT use solvents.</b></li> <li>▶ Seek medical attention in the event of irritation.</li> </ul>
<b>Inhalation</b>	<p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>▶ Remove to fresh air.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Not considered a normal route of entry.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>

**Most important symptoms and effects, both acute and delayed**

See Section 11

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

For chronic or short term repeated exposures to pyrethrum and synthetic pyrethroids:

- ▶ Mammalian toxicity of pyrethrum and synthetic pyrethroids is low, in part because of poor bioavailability and a large first pass extraction by the liver.
- ▶ The most common adverse reaction results from the potent sensitising effects of pyrethrins.
- ▶ Clinical manifestations of exposure include contact dermatitis (erythema, vesiculation, bullae); anaphylactoid reactions (pallor, tachycardia, diaphoresis) and asthma. [*Ellenhorn Barceloux*]
- ▶ In cases of skin contact, it has been reported that topical application of Vitamin E Acetate (alpha-tocopherol acetate) has been found to have high therapeutic value, eliminating almost all skin pain associated with exposure to synthetic pyrethroids. [*Incitec*]

**SECTION 5 FIRE-FIGHTING MEASURES**

**Extinguishing media**

**SMALL FIRE:**

- ▶ Water spray, dry chemical or CO2

**LARGE FIRE:**

- ▶ Water spray or fog.

**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul>
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**Special protective equipment and precautions for fire-fighters**

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ If safe, switch off electrical equipment until vapour fire hazard removed.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> </ul>
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	<ul style="list-style-type: none"> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ Aerosol cans may explode on exposure to naked flames.</li> <li>▶ Rupturing containers may rocket and scatter burning materials.</li> <li>▶ Hazards may not be restricted to pressure effects.</li> <li>▶ May emit acrid, poisonous or corrosive fumes.</li> <li>▶ Decomposes on heating and may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Decomposition may produce toxic fumes of; carbon dioxide (CO<sub>2</sub>) hydrogen chloride phosgene hydrogen fluoride, other pyrolysis products typical of burning organic material <b>Contains low boiling substance:</b> Closed containers may rupture due to pressure buildup under fire conditions, carbon monoxide (CO)</p>

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> <li>▶ Shut off all possible sources of ignition and increase ventilation.</li> <li>▶ Wipe up.</li> <li>▶ If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated.</li> <li>▶ Undamaged cans should be gathered and stowed safely.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Increase ventilation.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Water spray or fog may be used to disperse / absorb vapour.</li> <li>▶ Absorb or cover spill with sand, earth, inert materials or vermiculite.</li> <li>▶ If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated.</li> <li>▶ Undamaged cans should be gathered and stowed safely.</li> <li>▶ Collect residues and seal in labelled drums for disposal.</li> <li>▶ Remove leaking cylinders to a safe place if possible.</li> <li>▶ Release pressure under safe, controlled conditions by opening the valve.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ <b>DO NOT incinerate or puncture aerosol cans.</b></li> <li>▶ <b>DO NOT spray directly on humans, exposed food or food utensils.</b></li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>
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	<ul style="list-style-type: none"> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>Aerosol dispenser.</li> <li>Check that containers are clearly labelled.</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>Avoid reaction with oxidising agents</li> </ul>

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

Not Available

**EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
Callington 1-Shot Aircraft Insecticide	Not Available	Not Available	Not Available	Not Available


Ingredient	Original IDLH	Revised IDLH
d-phenothrin	Not Available	Not Available
permethrin	Not Available	Not Available
propellant, as HFC	Not Available	Not Available

**MATERIAL DATA**

**Exposure controls**

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <ul style="list-style-type: none"> <li>Process controls which involve changing the way a job activity or process is done to reduce the risk.</li> <li>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</li> <li>Employers may need to use multiple types of controls to prevent employee overexposure.</li> </ul> <p>General exhaust is adequate under normal conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.</p> <p>Provide adequate ventilation in warehouse or closed storage areas.</p> <p>Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p>									
	<table border="1"> <thead> <tr> <th>Type of Contaminant:</th> <th>Speed:</th> </tr> </thead> <tbody> <tr> <td>aerosols, (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> </tbody> </table>	Type of Contaminant:	Speed:	aerosols, (released at low velocity into zone of active generation)	0.5-1 m/s	direct spray, spray painting in shallow booths, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)			
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<p>Within each range the appropriate value depends on:</p> <table border="1"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table>	Lower end of the range	Upper end of the range	1: Room air currents minimal or favourable to capture	1: Disturbing room air currents	2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity	3: Intermittent, low production.	3: High production, heavy use	4: Large hood or large air mass in motion	4: Small hood-local control only
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<p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity</p>										

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	at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.
<b>Personal protection</b>	
<b>Eye and face protection</b>	No special equipment for minor exposure i.e. when handling small quantities. <b>OTHERWISE:</b> For potentially moderate or heavy exposures: <ul style="list-style-type: none"> <li>▸ Safety glasses with side shields.</li> <li>▸ <b>NOTE:</b> Contact lenses pose a special hazard; soft lenses may absorb irritants and <b>ALL</b> lenses concentrate them.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▸ No special equipment needed when handling small quantities.</li> <li>▸ <b>OTHERWISE:</b></li> <li>▸ For potentially moderate exposures: Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▸ For potentially heavy exposures: Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	No special equipment needed when handling small quantities. <b>OTHERWISE:</b> <ul style="list-style-type: none"> <li>▸ Overalls.</li> <li>▸ Skin cleansing cream.</li> <li>▸ Eyewash unit.</li> <li>▸ Do not spray on hot surfaces.</li> </ul>
<b>Thermal hazards</b>	Not Available

**Respiratory protection**

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	Clear colourless liquid; does not mix with water.[Supplied in aerosol pack containing non-flammable HFC propellant.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable

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<b>Flash point (°C)</b>	Not Applicable	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Applicable	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Applicable	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Applicable	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	250	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution (1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	>1	<b>VOC g/L</b>	Not Available

**SECTION 10 STABILITY AND REACTIVITY**

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Elevated temperatures.</li> <li>▶ Presence of open flame.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

**SECTION 11 TOXICOLOGICAL INFORMATION**

**Information on toxicological effects**

	<p>Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.</p> <p>Inhalation of pyrethrins may produce nausea, vomiting, sneezing, serious nasal discharge, nasal stuffiness and asthma. High concentrations may produce hyperexcitability, incoordination, tremors, muscular paralysis and death (due to respiratory failure).</p> <p>There have been some reports of transient facial tingling (paraesthesia) which lasts a few hours after exposure.</p> <p>The vapour is discomforting</p> <p><b>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</b></p>
<b>Inhaled</b>	<p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> <p>Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally, convulsions, coma and death. Significant concentrations of the non-toxic gas reduce the oxygen level in the air. As the amount of oxygen is reduced from 21 to 14 volume %, the pulse rate accelerates and the rate and volume of breathing increase. The ability to maintain attention and think clearly is diminished and muscular coordination is somewhat disturbed. As oxygen decreases from 14-10% judgement becomes faulty; severe injuries may cause no pain. Muscular exertion leads to rapid fatigue. Further reduction to 6% may produce nausea and vomiting and the ability to move may be lost. Permanent brain damage may result even after resuscitation at exposures to this lower oxygen level. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in a few minutes.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Spray mist may produce discomfort</p> <p>Acute effects from inhalation of high vapour concentrations may be chest and nasal irritation with coughing, sneezing, headache and even nausea.</p>
<b>Ingestion</b>	<p>Ingestion of pyrethrins may produce nausea, vomiting, headache and other central nervous system disturbances. Excitation, muscular tremors and a period of shock may be followed by death. Dogs fed 5000 ppm of pyrethrum, for 90 days, developed dyspnae, tremors, ataxia and excessive salivation. An estimated fatal human dose is thought to be 100 gms. for</p>

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	<p>a typical 70 kg man (1430 mg/kg). Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments</p>
<b>Skin Contact</b>	<p>Skin contact with natural pyrethrins may result in severe dermatitis and may also be associated with allergic rhinitis and asthma. Absorption through the skin may result in a toxic syndrome similar to that produced by inhalation. Systemic effects, following skin absorption, may include liver and kidney damage. Prolonged or repeated exposure may cause central nervous system effects and allergic skin reaction. Spray mist may produce discomfort Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
<b>Eye</b>	<p>Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures..</p>
<b>Chronic</b>	<p>Practical experience shows that skin contact with the material is capable either of inducing a sensitisation reaction in a substantial number of individuals, and/or of producing a positive response in experimental animals. On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Limited evidence shows that inhalation of the material is capable of inducing a sensitisation reaction in a significant number of individuals at a greater frequency than would be expected from the response of a normal population. Pulmonary sensitisation, resulting in hyperactive airway dysfunction and pulmonary allergy may be accompanied by fatigue, malaise and aching. Significant symptoms of exposure may persist for extended periods, even after exposure ceases. Symptoms can be activated by a variety of nonspecific environmental stimuli such as automobile exhaust, perfumes and passive smoking. Chronic poisoning by natural pyrethrins may result in convulsion, tetanic paralysis, rapid and uneven heart beat, liver and kidney damage, or death. The natural pyrethrins may produce hypersensitivity, especially following previous sensitising exposure. In general, repeated exposures over 2 or 3 years are required to elicit a response and involve exposure to pyrethrum rather than its individual components (including pyrethrins). The sesquiterpene lactone (pyrethrosin) and the pyrethrum glycoproteins account for the immediate and delayed hypersensitivity seen in guinea pigs following a single injection of ground chrysanthemum in Freud's adjuvant. Mild erythematic vesicular dermatitis (with papules), pruritus, localized oedema (particularly of the face, lips and eyelids), rhinitis, tachycardia, pallor and sweating are the most common syndromes. An initial skin sensitisation can progress to marked dermal oedema and skin cracking. Pyrethrum dermatitis appears to increase in hot weather or under conditions where heavy perspiration is produced. The active ingredients of pyrethrum (except pyrethrin II) are inactive in patch tests. Those patients allergic to ragweed pollen are particularly sensitive to pyrethrin. Rats fed on a diet of pyrethrins for 5000 ppm for 2 years showed some signs of tissue damage including liver lesions, bile duct proliferation and focal necrosis of the liver cells. A no-effect level of 1000 ppm found in animal experiments correspond to a daily dose of 3600 mg/man.</p>

<b>Callington 1-Shot Aircraft Insecticide</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>d-phenothrin</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >10000 mg/kg <sup>[2]</sup>	Nil reported
<b>permethrin</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: 1750 mg/kg <sup>[2]</sup> Oral (rat) LD50: 383 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg/24h - mild

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>D-PHENOTHRIN</b>	<p>for d-phenothrin: The acute toxicity of d-phenothrin is extremely low, the LD50 being &gt;5000 mg/kg body weight in the rat and mouse (via the oral, subcutaneous, dermal, and intraperitoneal routes) and the inhalation LC50 &gt;3760 mg/m<sup>3</sup> in the rat. d-Phenothrin causes a poisoning syndrome of hyperexcitability, prostration, tremor, ataxia, and paralysis. From these symptoms and the results of electrophysiological studies of cockroach cercal sensory nerves, it is classified as a Type I pyrethroid. <b>Repeat dose toxicity:</b> When rats were exposed to d-phenothrin by inhalation at concentrations of up to 210 mg/m<sup>3</sup> for 4 h per day for 4 weeks or orally for 5 consecutive days at a dose level of 5000 mg/kg body weight, no adverse toxicological effects were observed. Several feeding studies of phenothrin (racemic or d-phenothrin from 200 to 10 000 mg/kg diet) in rats and mice, with exposure periods of 6 months to 2 years, have been performed. The no- observed-effect levels (NOEL) obtained in these studies were 300- 1000 mg/kg diet, which correspond to approximately 40-160 mg/kg body weight per day. In two studies on dogs in which d-phenothrin was given at doses of 100-3000 mg/kg diet, with exposure periods of 26-52</p>
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Callington 1-Shot Aircraft Insecticide

	<p>weeks, the NOEL was 300 mg/kg diet, corresponding to 7-8 mg/kg body weight per day. Rats exposed by inhalation to very high doses of d-phenothrin (up to 3760 mg/m<sup>3</sup>) for 4 h or orally to a dose of 5000 mg/kg body weight per day for 5 days showed no myelin degeneration or axon disruption in the sciatic nerve <b>Genotoxicity:</b> d-Phenothrin is not mutagenic in a variety of <i>in vivo</i> and <i>in vitro</i> systems that test for gene mutations, DNA damage, DNA repair, and chromosomal effects. In 2-year studies, d-phenothrin was not oncogenic to rats and mice at dietary levels of up to 3000 mg/kg diet. <b>Developmental toxicity:</b> Neither teratogenicity nor embryotoxicity was observed in fetuses of rabbits and mice orally administered d-phenothrin at up to 1000 and 3000 mg/kg body weight, respectively. <b>Reproductive toxicity:</b> In a 2- generation rat reproduction study, the NOEL was 1000 mg/kg diet. - In a six month feeding trial NOEL was 2500 mg/kg diet [ICI] ADI: 0.02 mg/kg/day NOEL: 2.5 mg/kg/day</p>
<p><b>PERMETHRIN</b></p>	<p>The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. The substance is classified by IARC as Group 3: <b>NOT</b> classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing. [ * <i>The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council</i>] Oral (rat) LD50: 430-4000 mg/kg * Oral (mouse) LD50: 540-2960 mg/kg * cis/trans ratio: 40:60 cis/trans ratio: 20:80 ADI: 0.05 mg/kg for nominal cis-trans 40:60 and 25:75 isomers only</p>

<b>Acute Toxicity</b>	☹	<b>Carcinogenicity</b>	☹
<b>Skin Irritation/Corrosion</b>	☹	<b>Reproductivity</b>	☹
<b>Serious Eye Damage/Irritation</b>	☹	<b>STOT - Single Exposure</b>	☹
<b>Respiratory or Skin sensitisation</b>	✔	<b>STOT - Repeated Exposure</b>	☹
<b>Mutagenicity</b>	☹	<b>Aspiration Hazard</b>	☹

**Legend:** ✖ – Data available but does not fill the criteria for classification  
✔ – Data required to make classification available  
☹ – Data Not Available to make classification

**SECTION 12 ECOLOGICAL INFORMATION**

**Toxicity**

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
d-phenothrin	EC50	96	Algae or other aquatic plants	0.005mg/L	3
d-phenothrin	BCF	336	Fish	0.0034mg/L	4
d-phenothrin	EC50	48	Fish	0.00637mg/L	4
d-phenothrin	EC50	48	Crustacea	0.0071mg/L	4
d-phenothrin	LC50	96	Fish	0.0014mg/L	4
d-phenothrin	NOEC	48	Crustacea	0.0017mg/L	4
permethrin	EC50	96	Algae or other aquatic plants	0.005mg/L	3
permethrin	BCFD	24	Algae or other aquatic plants	1mg/L	4
permethrin	EC10	144	Crustacea	0.00009mg/L	4
permethrin	EC50	48	Crustacea	0.000112mg/L	4
permethrin	LC50	96	Fish	0.00062mg/L	4
permethrin	NOEC	96	Crustacea	0.000025mg/L	4

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Callington 1-Shot Aircraft Insecticide

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**DO NOT discharge into sewer or waterways.**

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
d-phenothrin	HIGH	HIGH
permethrin	HIGH	HIGH

**Bioaccumulative potential**

Ingredient	Bioaccumulation
d-phenothrin	LOW (LogKOW = 7.5367)
permethrin	LOW (LogKOW = 7.4267)

**Mobility in soil**

Ingredient	Mobility
d-phenothrin	LOW (KOC = 178400)
permethrin	LOW (KOC = 178400)



**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Discharge contents of damaged aerosol cans at an approved site.</li> <li>▶ Allow small quantities to evaporate.</li> <li>▶ <b>DO NOT incinerate or puncture aerosol cans.</b></li> <li>▶ Bury residues and emptied aerosol cans at an approved site.</li> </ul>
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**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

	
<b>Marine Pollutant</b>	

**Land transport (DOT)**

<b>UN number</b>	1950
<b>UN proper shipping name</b>	Aerosols
<b>Transport hazard class(es)</b>	Class : 2.2 Subrisk : Not Applicable
<b>Packing group</b>	Not Applicable
<b>Environmental hazard</b>	Not Applicable
<b>Special precautions for user</b>	Hazard Label : 2.2 Special provisions : Not Applicable

**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	1950
<b>UN proper shipping name</b>	Aerosols, non-flammable (containing biological products or a medicinal preparation which will be deteriorated by a heat test); Aerosols, non-flammable

Callington 1-Shot Aircraft Insecticide

<b>Transport hazard class(es)</b>	ICAO/IATA Class	2.2
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	2L
<b>Packing group</b>	Not Applicable	
<b>Environmental hazard</b>	Not Applicable	
<b>Special precautions for user</b>	Special provisions	A98A145A167A802
	Cargo Only Packing Instructions	204; 203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	204; 203
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y204; Y203
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G

Sea transport (IMDG-Code / GGVSee)

<b>UN number</b>	1950	
<b>UN proper shipping name</b>	AEROSOLS	
<b>Transport hazard class(es)</b>	IMDG Class	2.2
	IMDG Subrisk	Not Applicable
<b>Packing group</b>	Not Applicable	
<b>Environmental hazard</b>	Marine Pollutant	
<b>Special precautions for user</b>	EMS Number	F-D, S-U
	Special provisions	63 190 277 327 344 959
	Limited Quantities	1000ml

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

D-PHENOTHRIN(51186-88-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US EPCRA Section 313 Chemical List

PERMETHRIN(52645-53-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

US EPCRA Section 313 Chemical List

US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs)

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	YES
Delayed (chronic) health hazard	NO
Fire hazard	NO
Pressure hazard	NO
Reactivity hazard	NO

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
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Continued...

## Callington 1-Shot Aircraft Insecticide

Pyrethrins	1	0.454
Pyrethrins	1	0.454

## State Regulations

## US. CALIFORNIA PROPOSITION 65

None Reported

National Inventory	Status
Australia - AICS	Y
Canada - DSL	N (permethrin; d-phenothrin)
Canada - NDSL	N (permethrin; d-phenothrin)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	Y
Korea - KECI	N (d-phenothrin)
New Zealand - NZIoC	Y
Philippines - PICCS	N (d-phenothrin)
USA - TSCA	N (permethrin; d-phenothrin)
<b>Legend:</b>	<i>Y = All ingredients are on the inventory</i> <i>N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

## SECTION 16 OTHER INFORMATION

## Other information

## Ingredients with multiple cas numbers

Name	CAS No
d-phenothrin	51186-88-0, 188023-86-1, 26046-85-5, 51134-87-3, 26002-80-2
permethrin	52645-53-1, 54774-45-7, 57608-04-5, 93388-66-0, 63364-00-1, 60018-94-2, 75497-64-2

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

## Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
PC—STEL: Permissible Concentration-Short Term Exposure Limit  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists  
STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index

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