




Infosafe No™ 3NUJ2	Issue Date : February 2019	ISSUED by NUFARM
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 Product Name **ADMIRAL®**

## 1. Identification

<b>GHS Product Identifier</b>	ADMIRAL®
<b>Product Code</b>	02017
<b>Product Type</b>	Insect Growth Regulator
<b>Company Name</b>	Nufarm NZ
<b>Address</b>	6 Manu Street, Otahuhu Auckland 2024 New Zealand
<b>Telephone/Fax Number</b>	Tel: 0-9-270 4150
<b>Emergency phone number</b>	0800 651 911
<b>Email</b>	nzinfo@nufarm.com
<b>Recommended use of the chemical and restrictions on use</b>	A selective insect growth regulator for the control of whitefly on greenhouse tomatoes and greenhouse cucumbers.
<b>Other Information</b>	This SDS describes, to the best of our knowledge, the properties of the concentrated product. The physical properties and some of the assessments do not apply to the properties of the product once it has been diluted for application. Acute health effects of the diluted product are likely to be much less severe.

## 2. Hazard Identification

<b>Signal Word (s)</b>	DANGER
<b>Hazard Statement (s)</b>	H227 Combustible liquid H303 May be harmful if swallowed. H304 May be fatal if swallowed and enters airways. H315 Causes skin irritation. H410 Very toxic to aquatic life with long lasting effects.
<b>General Precautionary Statement (s)</b>	P101 If medical advice is needed, have product container or label at hand. P102 Keep out of reach of children. P103 Read label before use.
<b>Pictogram (s)</b>	Exclamation mark, Health hazard, Environment, <div style="display: flex; justify-content: space-around; align-items: center; margin-top: 10px;">    </div>
<b>Precautionary statement – Prevention</b>	P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. P264 Wash hands, gloves, goggles and contaminated clothing thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.
<b>Precautionary statement – Response</b>	P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P302+P352 IF ON SKIN: Wash with plenty of soap and water. P332+P313 If skin irritation occurs: Get medical advice/attention. P370+P378 In case of fire: Use water fog, foam, carbon dioxide or dry chemical for extinction. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P331 Do NOT induce vomiting. P362 Take off contaminated clothing and wash before reuse. P391 Collect spillage.
<b>Precautionary statement – Storage</b>	P403+P235 Store in a well-ventilated place. Keep cool.
<b>Precautionary statement – Disposal</b>	P405 Store locked up.
<b>Other Information</b>	P501 Dispose of contents/container only by using according to the label or at an approved landfill. Do not burn. 3.1D combustible liquid, 6.1E acute toxicant, 6.3A skin irritant, 9.1A aquatic toxicant

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### 3. Composition/information on ingredients

Chemical Characterization	Liquid		
Ingredients	<u>Name</u>	<u>CAS</u>	<u>Proportion</u>
	Pyriproxyfen	95737-68-1	100 g/L
	Emery	112-62-9	<30%
	Ingredients determined to be non-hazardous	-	To volume
	Aromatic hydrocarbon solvent	64742-94-5	300-600g/L

### 4. First-aid measures

<b>First Aid Measures</b>	For advice contact the National Poisons Centre 0800 POISON (0800 764 766) or a doctor immediately. Begin artificial respiration if the victim is not breathing. Use mouth-to-nose rather than mouth-to-mouth. Obtain medical attention.
<b>Inhalation</b>	Remove patient to fresh air. Lay down and keep warm and rested. If breathing is shallow or has stopped ensure airway is clear and apply resuscitation. Seek medical assistance immediately.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. If swallowed do NOT induce vomiting. For advice, contact the National Poisons Centre (0800 764 766). Seek medical assistance immediately.
<b>Skin</b>	Immediately flush body and clothes with large amounts of water. Remove contaminated clothing and footwear. Wash affected areas with soap and water. If a large area is affected seek medical assistance.
<b>Eye contact</b>	Flush eyes with plenty of water for 15 minutes holding eyelids open if necessary. Seek medical assistance.
<b>First Aid Facilities</b>	Facilities storing or utilizing this material should be equipped with an eyewash facility and safety shower.
<b>Advice to Doctor</b>	Treat symptomatically. If ingested, probable mucosal damage may contraindicate the use of gastric lavage. This product contains a light hydrocarbon liquid; ingestion or subsequent vomiting can result in aspiration of this product, which can cause pneumonitis.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog, foam, carbon dioxide or dry chemical.
<b>Unsuitable Extinguishing Media</b>	Do not use water in a jet.
<b>Hazards from Combustion Products</b>	On burning may emit fumes which are toxic and/or irritating. Normal combustion forms carbon dioxide, water vapour and may produce oxides of nitrogen. Incomplete combustion can produce carbon monoxide.
<b>Special Protective Equipment for fire fighters</b>	Full protective clothing and self-contained breathing apparatus.
<b>Specific Methods</b>	Keep up wind. Do not allow washings to reach sewage or effluent systems. Keep containers cool with water spray.
<b>Hazchem Code</b>	2Z
<b>Decomposition Temp.</b>	Not available.
<b>Other Information</b>	Location Certificate: Not applicable Hazardous Atmosphere Zone: Not applicable Number of Fire Extinguishers: 2 for 500L or more

### 6. Accidental release measures

<b>Spills &amp; Disposal</b>	Wear protective clothing. Clear area of unprotected personnel. Eliminate all ignition sources and naked lights. Use non-sparking utensils. Contain spill and absorb with sand, soil or absorbent granules. If spill does enter waterways contact the local authority. Collect in an appropriate sealable container for disposal in an approved landfill. Prevent materials from coming into contact with Class 1,2,3,2,4 or 5 substances.
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**Personal Protection** Wash area with water and detergent and absorb with inert material. Dispose of waste safely in an approved landfill.  
For appropriate personal protective equipment (PPE), refer Section 8.

**Environmental Precautions** Prevent from entering drains, waterways or sewers.

## 7. Handling and storage

**Precautions for Safe Handling** Do not handle until all safety precautions have been read and understood. The person mixing or applying Admiral must be a 'Qualified Contractor' or a 'Qualified Person'. The spray mixture may also be prepared by a 'Qualified Loader'. It is the duty of the PCBU that a person who uses, handles, manufactures or stores a hazardous substance (including hazardous waste) is provided information, instruction and training in accordance with Regulation 4.5 of the Health and Safety at work (Hazardous Substances) Regulations 2017.  
Avoid skin and eye contact and inhalation of spray mist.  
CERTIFIED HANDLER: Not required  
This product may only be applied in greenhouses.  
Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.  
Do not apply directly onto or into water.  
TRACKING: Is not required.  
RECORD KEEPING: Records of use as described in NZS 8409 Management of Agrichemicals must be kept if 3L or more is applied within 24 hours.

**Conditions for safe storage, including any incompatibilities** Keep out of reach of children.  
Do not store near heat or flame.  
Store in original container tightly closed, in a well-ventilated area, as cool as possible, away from sources of ignition and foodstuffs. Do not store for prolonged periods in direct sunlight. Store in accordance with NZS 8409 Management of Agrichemicals.  
Do not store with HSNO Class 1,2,3,2,4 or 5 substances.  
Stores containing 100L of ADMIRAL require secondary containment and are subject to signage, and more than 100L requires emergency response plans.  
Stores containing 500L must have at least 2 fire extinguishers.

**Other Information** Aggregate storage volume thresholds:  
When stored with substances of the same hazard classification the aggregate quantity must be considered. For full details refer to the current NZS8409 Management of Agrichemicals and the HSNO Regulations.

## 8. Exposure controls/personal protection

**Occupational exposure limit values** No exposure limits (WES, TEL or EEL's) have been specifically assigned for this product. WES TWA for Emery = 10mg/m<sup>3</sup>

**Appropriate engineering controls** Handle in well ventilated areas, generally natural ventilation is adequate.

**Personal Protective Equipment** When opening the container, preparing spray and using the prepared spray wear safety goggles, waterproof gloves, washable hat, cotton overalls buttoned to the neck and wrist, boots, and a NIOSH approved half face mask with organic vapour cartridge + dust/mist prefilter.

**Hygiene Measures** Do not eat drink or smoke while using.  
Remove protective clothing and wash hands and face thoroughly before meals and after work. Wash protective clothing daily after work. Wash splashes of concentrate from skin immediately.

## 9. Physical and chemical properties

**Form** Liquid

**Appearance** Pale yellow to clear liquid

**Odour** Mild aromatic odour

**Decomposition Temperature** Not available.

**Melting Point** Not Applicable.

**Boiling Point** Not available.

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<b>Solubility in Water</b>	Forms an emulsion in water.
<b>Specific Gravity</b>	0.92g/mL @ 20°C
<b>pH</b>	5.7 (10%v/v)
<b>Vapour Pressure</b>	<0.013 mPa (23°C) (for Pyriproxyfen)
<b>Vapour Density (Air=1)</b>	Not available.
<b>Viscosity</b>	18.5 cps
<b>Partition Coefficient: n-octanol/water</b>	Not available.
<b>Flash Point</b>	67°C (setaflash cc)
<b>Flammability</b>	Not available
<b>Auto-Ignition Temperature</b>	Not available.
<b>Flammable Limits - Lower</b>	Not available.
<b>Flammable Limits - Upper</b>	Not available.
<b>Kinematic Viscosity</b>	Not available.
<b>Other Information</b>	(EC) Emulsifiable concentrate

## 10. Stability and reactivity

<b>Chemical Stability</b>	When stored appropriately this product should show no significant degradation for 3 year(s) from the date of manufacture.
<b>Conditions to Avoid</b>	Avoid direct sunlight.
<b>Hazardous Polymerization</b>	Hazardous polymerisation will not occur.

## 11. Toxicological Information

<b>Toxicology Information</b>	No specific toxicological data is available for this product. Data below is for constituents.
<b>Acute Toxicity - Oral</b>	LD50 (rat, female) is 3,773mg/kg
<b>Acute Toxicity - Dermal</b>	LD50 (rabbit) is >2,000mg/kg
<b>Acute Toxicity - Inhalation</b>	LC50 (rat) (4hr) is >3.1mg/L - no deaths
<b>Ingestion</b>	Due to the low viscosity of the product, it can directly enter the lungs if swallowed (called aspiration). This can occur during the act of swallowing or when vomiting. Once in the lungs, the substance is very difficult to remove and can cause severe injury to the lungs.
<b>Skin</b>	May cause skin irritation.
<b>Skin Sensitisation</b>	Non-sensitising. This product did not produce a positive skin sensitisation reaction in a Buehler Skin Sensitisation Test.
<b>Carcinogenicity</b>	Information not available.
<b>Reproductive Toxicity</b>	Pyriproxyfen technical did not produce reproductive toxicity in animal studies. No developmental toxicity was produced in animals exposed, even at doses that were toxic to pregnant animals. This product is not expected to be a reproductive hazard when used according to label directions.
<b>STOT-single exposure</b>	Not classified.
<b>STOT-repeated exposure</b>	Not classified.
<b>Serious eye damage/irritation</b>	Slight irritant. This product produced mild and transient eye irritation in rabbits, which cleared within 72 hours after treatment.
<b>Mutagenicity</b>	Information not available.

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<b>Skin corrosion/irritation</b>	Moderate irritant (rabbit)
<b>Subchronic/Chronic Toxicity</b>	<p>Studies with pyriproxyfen technical indicated that repeated high exposures produced changes in the liver, kidney and red blood cells but did not produce cancer in test animals.</p> <p>This product contains a solvent mixture. Reports have associated repeated and prolonged occupational overexposures to solvents with permanent brain and nervous system damage. Symptoms reported include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short term memory loss. Since many other diseases cause some or all of these symptoms, a doctor should be consulted in any appear.</p> <p>Overall, this product is not expected to be a chronic hazard when used according to the label directions.</p>

## 12. Ecological information

<b>Persistence and degradability</b>	Soil persistent.
<b>Bioaccumulative Potential</b>	Bioaccumulative. Log Kow = 5.37
<b>Basis for Assessment</b>	Ecotoxicological data have not been determined specifically for this product. Data below is for the active ingredient unless otherwise stated.
<b>Acute Toxicity - Fish</b>	LC50(96hr)for carp is 0.45 mg/l for pyriproxyfen.
<b>Acute Toxicity - Daphnia</b>	LC50(48hr)for daphnia is 0.08mg/l for pyriproxyfen.
<b>Acute Toxicity - Algae</b>	EC50(72hr)for green algae (Selenastrum spp)is 0.056 mg/l for pyriproxyfen.
<b>Acute Toxicity - Other Organisms</b>	LD50 for mallard duck and bobwhite quail is >2,000 mg/kg for pyriproxyfen.

## 13. Disposal considerations

<b>Product Disposal</b>	Dispose of product only by using according to the label, or at an approved landfill.
<b>Container Disposal</b>	Do not burn. Triple rinse empty container and add rinsate to the spray tank.Recycle empty container. Otherwise crush and bury in a suitable landfill.

## 14. Transport information

<b>Transport Information</b>	It is good practice not to transport agricultural chemical products with food, food related materials and animal feedstuffs.
<b>U.N. Number</b>	3082
<b>UN proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. - (pyriproxyfen, 10%)
<b>Transport hazard class(es)</b>	9
<b>Hazchem Code</b>	2Z
<b>Packaging Method</b>	-
<b>Packing Group</b>	III
<b>EPG Number</b>	-
<b>IERG Number</b>	47
<b>IMO Marine Pollutant</b>	Yes. Environmentally Hazardous Substance mark required.
<b>IMDG EMS</b>	F-A, S-F
<b>Other Information</b>	Do not carry more than 1L of ADMIRAL on a passenger service vehicle. Segregation: Check the latest Land Transport Rule Dangerous Goods Rule 45001 for additional information.Sea transport may require additional segregation. Refer NZS5433 sea segregation for details.

## 15. Regulatory information



# Safety Data Sheet

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**National and or International Regulatory Information** Registered pursuant to the ACVM Act 1997, No. P7660  
See [www.foodsafety.govt.nz](http://www.foodsafety.govt.nz) for registration conditions  
Approved pursuant to the HSNO Act 1996, Approval Code HSR100004  
See [www.epa.govt.nz](http://www.epa.govt.nz) for approval controls.

**Packaging & Labelling** WARNING-combustible liquid  
HARMFUL\*ECOTOXIC-keep out of reach of children.

**Hazard Rating Systems** NFPA/HMIS: 2-2-1

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## 16. Other Information

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**Contact Person/Point** IN AN EMERGENCY, DIAL 111 - FIRE OR POLICE  
24Hr Tollfree Emergency No: 0800 651 911  
24Hr Emergency No: National Poisons Centre Phone: 0800 764 766

**Revisions Highlighted** The SDS was reviewed to include GHS requirements.

**Other Information** Supersedes SDS issued March 2015.  
...End Of MSDS...

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