SAFETY DATA SHEET
According to Safe Work Australia

1 . IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

Product Name: GENFARM BIFENTHRIN 100 EC INSECTICIDE

Other Means of Identification: Mixture
APVMA Number: 67534

Recommended Use of the Chemical and Restriction on Use: Agricultural insecticide

Details of Manufacturer or Importer:
Landmark Operations Limited
Suite 3, Level 1, Building B
11 Talavera Road
Macquarie Park NSW 2113

Phone Number: 02 9889 5400

Emergency telephone number: National Poison Information Centre: 13 11 26

2 . HAZARDS IDENTIFICATION

Hazardous Nature:
Classified as Hazardous according to the Globally Harmonised System of Classification and Labelling of Chemicals (GHS) and Safe Work Australia criteria.
Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Acute Tox. 4 H302 Harmful if swallowed.

Signal Word Warning

Hazard Statements
H302 Harmful if swallowed.

Precautionary Statements
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P501 Dispose of contents/container in accordance with local/regional/national regulations.

3 . COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical Characterization: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Hazardous Components:		
82657-04-3	Bifenthrin (ISO) Acute Tox. 2, H300; Acute Tox. 3, H331; Carc. 2, H351; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1B, H317	10%

Additional information: Liquid Hydrocarbon, CAS No. not supplied: 76.3%

4 . FIRST AID MEASURES

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention if breathing problems develop.

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Skin Contact:
In case of skin contact, immediately remove contaminated clothing and wash affected areas with water and soap. Seek medical attention if symptoms occur.

Eye Contact:
In case of eye contact, hold eyelids open and rinse with water for at least 15 minutes. Seek immediate medical attention.

Ingestion:
If swallowed, do not induce vomiting. Immediately rinse mouth with water. Give a glass of water. Never give anything by mouth to an unconscious person. Seek medical attention.

Symptoms Caused by Exposure:
Inhalation: May cause mild irritation.
Skin Contact: May cause skin irritation, itchiness and reddening. May cause skin numbness.
Eye Contact: May cause eye irritation, stinging, reddening and watering. Prolonged exposure or delayed treatment may cause permanent eye damage.
Ingestion: Harmful if swallowed, causing incoordination, tremors, salivation, vomiting and irritability to sound and touch. May cause irritation, redenning and burning sensation to mouth and throat.

5 . FIRE FIGHTING MEASURES

Suitable Extinguishing Media:
Water fog, foam, dry chemical or carbon dioxide. Alcohol-resistant foam is preferred, but normal foam can be used.

Specific Hazards Arising from the Chemical:
Hazardous combustion products include oxides of carbon, hydrogen chloride, other chlorine compounds, hydrogen fluoride and other fluorine compounds.
Combustible liquid Class 1.
Containers close to fire should be removed if safe to do so. Use water spray to cool fire exposed containers. Vapours may travel considerable distances to a source of ignition where they can ignite, flashback, or explode.

Special Protective Equipment and Precautions for Fire Fighters:
When fighting a major fire wear self-contained breathing apparatus and protective equipment.

6 . ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures:
Wear approved respiratory protection, chemical resistant gloves, protective clothing and safety boots. Evacuate all non-essential personnel from affected area. Do not breathe vapours. Ensure adequate ventilation. Extinguish all sources of ignition. Avoid sparks and open flames. No smoking.

Environmental Precautions:
In the event of a major spill, prevent spillage from entering drains or water courses.

Methods and Materials for Containment and Cleaning Up:
Stop leak if safe to do so and absorb spill with sand, earth, vermiculite or some other absorbent material. Collect the spilled material and place into a suitable container for disposal. Wash spill area, preventing runoff from entering drains.

7 . HANDLING AND STORAGE

Precautions for Safe Handling:
Use of safe work practices are recommended to avoid eye or skin contact and inhalation of vapours.
Food, beverages and tobacco products should not be stored or consumed where this material is in use. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storage or re-use. Provide eyewash fountains and safety showers in close

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proximity to points of potential exposure.

Conditions for Safe Storage:
Store in a cool, dry and well ventilated area. Keep in original container, tightly closed when not in use. Protect from heat, sparks, open flames, hot surfaces and direct sunlight. Keep away from strong oxidising agents, strong acids and strong bases.

8 . EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Standards:
Liquid hydrocarbon:
TWA - 790 mg/m³

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapour below occupational exposure standards.

Respiratory Protection:
Use an approved vapour respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapour, inadequate ventilation, development of respiratory tract irritation) and engineering controls are not feasible. See Australian Standards AS/NZS 1715 and 1716 for more information.

Skin Protection:
PVC or rubber gloves. See Australian/New Zealand Standard AS/NZS 2161 for more information. When selecting gloves for use against certain chemicals, the degradation resistance, permeation rate and permeation breakthrough time should be considered.
Occupational protective clothing (depending on conditions in which it has to be used, in particular as regards the period for which it is worn, which shall be determined on the basis of the seriousness of the risk, the frequency of exposure to the risk, the characteristics of the workstation of each worker and the performance of the protective clothing). See Australian/New Zealand Standard AS/NZS 4501 for more information.

Eye and Face Protection:
Eye and face protectors for protection against splashing materials or liquids. See Australian/New Zealand Standard AS/NZS 1337 for more information.

9 . PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	
Form:	Liquid
Colour:	Amber
Odour:	Hydrocarbon
Odour Threshold:	No information available
pH-Value:	No information available
Melting point/Melting range:	No information available
Initial Boiling Point/Boiling Range:	~150 °C (at 100 kPa)
Flash Point:	>61 °C
Flammability:	Combustible liquid Class 1
Auto-ignition Temperature:	No information available
Decomposition Temperature:	No information available
Explosion Limits:	
Lower:	No information available
Upper:	No information available
Vapour Pressure:	No information available
Relative Density:	~0.994
Vapour Density:	>1
Evaporation Rate:	<1

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Solubility in Water: Emulsifies into water.

10 . STABILITY AND REACTIVITY

Possibility of Hazardous Reactions: Hazardous polymerisation will not occur.

Chemical Stability: Stable at ambient temperature and under normal conditions of use.

Conditions to Avoid: Heat, sparks, open flames, hot surfaces and direct sunlight.

Incompatible Materials: Strong oxidising agents, strong acids and strong bases.

Hazardous Decomposition Products:
Oxides of carbon, hydrogen chloride, other chlorine compounds, hydrogen fluoride and other fluorine compounds.

11 . TOXICOLOGICAL INFORMATION

Toxicity:

LD_{50}/LC_{50} Values Relevant for Classification:		
82657-04-3 Bifenthrin (ISO)		
Oral	LD_{50}	54 - 70 mg/kg (rat)
Dermal	LD_{50}	>2000 mg/kg (rabbit)

Acute Health Effects
Inhalation: May cause mild irritation.
Skin: May cause skin irritation, itchiness and reddening. May cause skin numbness.
Eye: May cause eye irritation, stinging, reddening and watering.
Ingestion:
Harmful if swallowed, causing incoordination, tremors, salivation, vomiting and irritability to sound and touch. May cause irritation, redenning and burning sensation to mouth and throat.

Skin Corrosion / Irritation: Based on classification principles, the classification criteria are not met.

Serious Eye Damage / Irritation: Based on classification principles, the classification criteria are not met.

Respiratory or Skin Sensitisation: Based on classification principles, the classification criteria are not met.

Germ Cell Mutagenicity: Based on classification principles, the classification criteria are not met.

Carcinogenicity: This product does NOT contain any IARC listed chemicals.

Reproductive Toxicity: Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Single Exposure:
Based on classification principles, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) - Repeated Exposure:
Based on classification principles, the classification criteria are not met.

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

Chronic Health Effects:
Prolonged exposure or delayed treatment may cause permanent eye damage. Repeated exposure may cause skin dryness or cracking.

Existing Conditions Aggravated by Exposure: No information available

Additional toxicological information:

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The Australian Acceptable Daily Intake (ADI) for bifenthrin for a human is 0.01 mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1 mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Ageing Office of Chemical Safety, 'ADI List', June 2014).

12 . ECOLOGICAL INFORMATION

Ecotoxicity:
Bifenthrin is toxic to bees.
Bifenthrin is moderately toxic to birds:
Oral LD50 1800 mg/kg (bobwhite quail)
Oral LD50 2150 mg/kg (mallard ducks)
LC50 /8 day dietary 1280 ppm (mallard duck)
LC50 /8 day dietary 4450 ppm (bobwhite quail)

Aquatic toxicity:	
82657-04-3 Bifenthrin (ISO)	
LC_{50}/96 h	0.00035 mg/L (bluegill)
	0.00035 mg/L (rainbow trout)
	0.0016 mg/L (daphnia)

Highly toxic to aquatic life with long lasting effects.

Persistence and Degradability: Half-life in soil: 7 days - 8 months.

Bioaccumulative Potential: No information available

Mobility in Soil:
Bifenthrin has a high affinity for soil particles and low solubility in water. Bifenthrin has low mobility in soil and there are no concerns about leaching or groundwater contamination.
Other adverse effects: No information available

13 . DISPOSAL CONSIDERATIONS

Disposal Methods and Containers: Dispose according to applicable local and state government regulations.

Special Precautions for Landfill or Incineration:
Please consult your state Land Waste Management Authority for more information.

14 . TRANSPORT INFORMATION

UN Number	
ADG	Not regulated
IMDG, IATA	UN 3082
Proper Shipping Name	
ADG	Not regulated
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, 1,2-benzisothiazol-3(2H)-one), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Azoxystrobin, 1,2-benzisothiazol-3(2H)-one)
Dangerous Goods Class	
ADG Class:	Not regulated
IMDG Class:	9 Miscellaneous dangerous substances and articles.

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Packing Group:	
ADG	Not regulated
IMDG, IATA	III
Marine pollutant:	Yes Symbol (fish and tree)
EMS Number:	F-A,S-F
Hazchem Code:	.3Z
Special Provisions:	179, 274, 331, 335, AU01
Limited Quantities:	5L
Packagings & IBCs - Packing Instruction:	P001, IBC03, LP01
Packagings & IBCs - Special Packing Provisions:	PP1
Portable Tanks & Bulk Containers - Instructions:	T4
Portable Tanks & Bulk Containers - Special Provisions:	TP1, TP29

15 . REGULATORY INFORMATION

Australian Inventory of Chemical Substances:	
82657-04-3	Bifenthrin (ISO)

Standard for the Uniform Scheduling of Drugs and Poisons (SUSMP) - Poison Schedule:
Poisons Schedule: 6

16 . OTHER INFORMATION

Date of Preparation or Last Revision: 10.08.2015

Prepared by: MSDS.COM.AU Pty Ltd www.msds.com.au

Abbreviations and acronyms:
ADG: Australian Dangerous Goods
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC_{50}: Lethal concentration, 50 percent
LD_{50}: Lethal dose, 50 percent
IARC: International Agency for Research on Cancer
STEL: Short Term Exposure Limit
TWA: Time Weighted Average
NES: National Exposure Standard (Safe Work Australia - Workplace Exposure Standards For Airborne Contaminants)

Disclaimer
This SDS is prepared in accord with the Safe Work Australia document “Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals - December 2011”
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