

	Title	Material Safety Data Sheet	MSDS Doc. No.	BU013
	Document Responsible	BU MSDS Coordinator	Revision number Effective Date	10/12/09
	Approved by	Managing Director	Page	1 of 4
	Rev. 1.2	Issue date: 10/12/2009	Review Due: 10/11/2014	

GREEN GUARD® ULV

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name	Green Guard® ULV		
Other Names	<i>Metarhizium anisopliae</i> var. <i>acridum</i> ; FI-985		
Product Code	AS/COGGD:L140		
Product Use	Biological control of wingless grasshoppers and locusts namely: Australian plague locust (<i>Chortoicetes terminifera</i>), small plague grasshopper (<i>Austroicetes cruciata</i>), migratory locust (<i>Locusta migratoria</i>), spur-throated locust (<i>Austracris guttulosa</i>), and wingless grasshopper (<i>Phaulacridium vittatum</i>).		
Manufacturer Name	Becker Underwood Pty Ltd		
Address	1205 Old Pacific Highway Somersby NSW 2250		
Telephone Number	1800 558 399 (Toll Free)	+61 2 4340 2246 (Outside Australia)	
Emergency Telephone	1800 033 111 (Australia)	0800 734 607 (New Zealand)	

2. HAZARDS IDENTIFICATION

NON HAZARDOUS SUBSTANCE. NON DANGEROUS GOODS.

Not classified as hazardous according to the criteria of NOHSC.

Hazards –

Risk Phrases R36 – Irritating to eyes

Safety Phrases S2 – Keep out of reach of children

S36/37 – Wear suitable protective clothing and gloves.

S45 – In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)

S53 – Avoid exposure – obtain special instructions before use.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient (common name)	CAS Number	Weight Percent
<i>M. anisopliae</i> var. <i>acridum</i> strain FI-985 (Green Guard®) spores	–	30%
Non-hazardous suspension oil	8001-30-7	70%

4. FIRST AID MEASURES

Inhalation	If difficulty breathing occurs, move affected person to fresh air. Loosen clothing to ease breathing. Seek immediate medical attention.
Ingestion	Seek immediate medical attention. Unless advised otherwise, give affected person water or milk to dilute and then induce vomiting. Never give anything by mouth to unconscious person.
Skin	Thoroughly wash affected area with soap and water. Remove contaminated clothing. If irritation develops seek medical attention. Wash contaminated clothing before reuse.
Eyes	Flush eyes with flowing water for at least 15 minutes. Seek immediate medical attention.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media	For all major fires call the Fire Brigade. Ensure that an escape path is available from any fire.
Hazardous Combustion	Foam, alcohol foam, CO ₂ , dry chemical, water fog. When involved in a fire, burning may evolve noxious fumes which may include carbon monoxide, carbon dioxide, nitrous oxides, acetic acid, or other toxic compounds depending on the chemical composition and

Firefighting Equipment	combustion conditions. However, all of the water must be driven off first for this to occur.
Unusual Fire or Explosion Hazards	Fire fighters should wear butyl rubber boots, gloves, body suit and a self-contained breathing apparatus.
Hazchem Code	Not a fire or explosion hazard when stored under normal conditions. Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Spills	Contain the spill to prevent discharge to surface streams or storm sewers. Vacuum or use wet clean-up techniques and place recovered product in a closable container.
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7. HANDLING AND STORAGE

Handling	Exercise normal care in handling. Avoid unnecessary skin contact. Do not breathe fumes.
Storage	Store in tightly closed containers. Store in an area that is dry and well ventilated. Store between 2°C to 10°C. Do not freeze.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Standards	TWA: not set. STEL: not set.
Engineering Controls	Provide adequate ventilation.
Respiratory protection	Green Guard [®] ULV is intended for aerial application. Apply by aircraft through ULV spray units. Repeated exposure may cause allergic disorders. Sensitive workers should wear a disposable mist mask. See Australian Standards AS/NZS 1715 and 1716 for more information.
Eye Protection	Chemical goggles; wear face shield if splashing hazard exists.
Skin Protection	Cotton overalls buttoned to neck and wrist and a washable hat, elbow-length rubber gloves and face shield.
Hygienic Practices	Open wounds or skin surface disruptions should be covered with a chemical resistance patch to minimize absorption risks. Clean clothing should be worn daily to avoid possible long-term build up of the product leading to chronic overexposure. After use, wash hands thoroughly with soap and water. Safety shower and emergency eye wash must be readily available within work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Dark green/black viscous liquid.
Odour	Mild odour.
Solubility in water	Immiscible in water.
Melting Point	No information available.
Vapour density (Air = 1)	No information available.
Specific Gravity (H₂O = 1)	~0.94 – 0.97
Evaporation Rate	No information available.
Flash Point	No information available.
Flammable Limit – Lower	No information available.
Flammable Limit – Upper	No information available.

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under normal conditions of handling and use.
Incompatible Materials	Long term storage in direct contact with reactive metals such as aluminium, zinc, copper, nickel and magnesium. Other materials to avoid include strong oxidizing agents, disinfectants, fungicides and biocides.
Hazardous Polymerization	Will not occur.

Conditions to Avoid Extremes in temperature. Microorganisms denature >50°C.

11. TOXICOLOGICAL INFORMATION

Routes of Exposure	Inhalation, ingestion, eye and skin
Health effects from Likely Routes of Exposure	Inhalation: Prolonged inhalation may cause respiratory irritation. Ingestion: Ingestion of very large quantities may be harmful. Eye: Prolonged or repeated contact may cause mechanical irritation. Skin: Prolonged or repeated contact may cause skin irritation.
Effects of Overexposure	Long term exposure may cause mechanical irritation of eyes and skin as well as respiratory tract irritation.
Existing Conditions Aggravated by Exposure	May provoke asthmatic response in persons with asthma who are sensitive to airway irritants.
Carcinogenicity	No (NTP, IARC)

12. ECOLOGICAL INFORMATION

Ecotoxicity	This product is a potential hazard to bees. Do not spray on plants in flower while bees are foraging.
Mobility	No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods and Containers	Dispose according to applicable local and government regulations. Triple or preferably pressure rinse empty containers in water before disposal. Add rinsings to spray tank. Do not dispose undiluted product on site.
Special Precautions for Landfill or Incineration	Please consult your local waste management authority for more information. If not recycling, break, crush, or puncture and bury empty containers in a local authority landfill. If no landfill is available, bury the containers below 500mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty containers and product should not be burnt.

14. TRANSPORT INFORMATION

Not classified as a dangerous good according to the Australian Code for the Transport of Dangerous goods by road or rail.

UN Number	Not applicable.
Proper Shipping Name	Not applicable.
Dangerous Goods Class	Not applicable.
Hazchem Code	Not applicable.
Packing Group	Not applicable.
Special Precautions	Not applicable.

15. REGULATORY INFORMATION

Non-hazardous suspension component is listed on the Australian Inventory of Chemical Substances (AICS)

16. OTHER INFORMATION

Last Revision of MSDS	Rev 1.2 (10/12/2009)
Prepared by	Becker Underwood MSDS Coordinator

Abbreviations Used
NOHSC: National Occupational Health and Safety Commission
ARC: International Agency for Research on Cancer
NTP: National Toxicology Program (U.S.)
OSHA: Occupational Safety and Health Administration (U.S.)
STEL: Short term exposure limit
TWA: Time weighted average

Emergency Contacts

Becker Underwood Pty Ltd (Australia)	1800 558 399
Becker Underwood Pty Ltd (Australia)	+61 2 4340 2246
Becker Underwood Pty Ltd (New Zealand)	0800 232 537
24 Hour Emergency Response Number (Australia)	1800 033 111
24 Hour Emergency Response Number (New Zealand)	0800 734 607
Police and Fire Brigade (Australia)	000
Poisons Information Centre (Australia)	13 11 26
Poisons & Hazardous Chemicals Information Centre (New Zealand)	+64 (0)3 4747 000

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Please read instructions / label before using product.