

MATERIAL SAFETY DATA SHEET

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Date of Issue: May 2008
MSDS No. FMC/TAL80/2

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: TALSTAR 80SC MITICIDE/INSECTICIDE

Other Names: Bifenthrin.
Use: Agricultural Miticide/Insecticide.
Company: FMC Australasia Pty Ltd.
Address: Unit 6, 9 Archimedes Place, Murarrie, Qld 4172
Telephone Number: 07 3908 9222 **Fax Number:** 07 3908 9221
Emergency Telephone Number: 1800 033 111 (All hours - Australia wide)

SECTION 2 HAZARDS IDENTIFICATION

**Classified as hazardous according to criteria of NOHSC.
Not classified as a Dangerous Good according to the ADG Code.**

Risk Phrases: R20/22 Harmful by inhalation and if swallowed.
Safety phrases: S2 Keep out of reach of children.
S13 Keep away from food, drink and animal feeding stuffs.
S23 Do not breathe vapour or spray.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

<i>CHEMICAL</i>	<i>CAS NUMBER</i>	<i>PROPORTION (% w/w)</i>
Bifenthrin	82657-04-3	80 g/L
Propane-1,2-diol	57-55-6	1 -10%
Other ingredients determined to be non-hazardous		> 60%

SECTION 4 FIRST AID MEASURES

FIRST AID

Ingestion: If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia 131126. Do not induce vomiting or give anything by mouth to an unconscious person. Get to a doctor or hospital quickly.

Eye contact: Flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

Skin contact: If on skin or clothing, remove any contaminated clothing at once, and wash skin thoroughly with soap and water. See a doctor if irritation persists.

Inhalation: Remove to fresh air. If breathing discomfort occurs, contact a medical doctor.

Advice to Doctor: Bifenthrin the active ingredient in this product is a synthetic pyrethroid insecticide. The product has moderate oral toxicity and produces minimal irritation. After removal from exposure treatment is symptomatic and supportive. Digestible fats, oils, alcohol and milk products increase absorption and should be avoided. It has been reported that a topical application of Vitamin E cream has therapeutic value in reducing skin irritation, associated with skin contact with pyrethroid insecticides.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing media: Soft stream water fog, Foam, CO₂ or dry chemical. Contain all runoff.

Hazards from combustion products: On heating, this product can produce toxic fumes of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, fluorine and hydrogen fluoride.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind residents. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated. Try to keep containers cool with soft stream water fog. Product is non-combustible.

SECTION 6 ACCIDENTIAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Wear prescribed protective clothing and equipment. Large spills should be dyked or covered to prevent dispersal. Vacuum, shovel or pump spilled material into an approved container and dispose of as listed below.

Material and methods for containment and cleanup procedures: To decontaminate spill area, tools and equipment, wash with a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Dispose of waste as indicated below or according to Australian Standard 2507 - Storage & Handling of Pesticides. Wear protective clothing such as full body cover barrier suit, eg. a 'rubber rain suit'. Keep out unprotected persons and animals.

Dangerous to Fish: Do NOT allow spilled product or wash solution to enter sewers, drains, dams, creeks or any other waterways.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling: Ensure containers are kept closed until using product. Avoid splashing product. Product will irritate eyes. Wash hands after use.

Conditions for Safe Storage: Store in a cool, dry, well ventilated location. Avoid excess heat. No smoking eating or drinking should be allowed where material is used or stored. Keep out of the reach of children and animals. Store in original containers only. Do not locate near or contaminate food or feed by storage or disposal. Wash all exposed skin surfaces prior to smoking drinking or eating. All workers should shower at the end of each work day after handling this product. Wash all clothing after each use.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**National Exposure Standards:**

No exposure standard for bifenthrin has been established by ASCC. However, the following exposure standard has been established:

Atmospheric Contaminant	Exposure Standard (TWA) ^a	Proportion in AquaMax
Propane-1,2-diol total: (vapour & particulates)	150 ppm (474 mg/m ³)	< 5%
TWA = Time-weight Average		

It is highly unlikely that atmospheric concentrations of Propane-1,2-diol will reach the above concentrations when used as directed.

Biological Limit Values:

No biological limit allocated.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)**Engineering controls:**

Thoroughly ventilate all transport vehicles prior to unloading. General air replacement or dilution ventilation is sufficient for material handling and storage, but local exhaust ventilation should be used when filling or emptying this product.

Personal Protective equipment (PPE):

Work Clothing: For normal handling wear long sleeve uniform or overalls and head covering. For large exposures (eg. Spills), wear full body cover barrier suit, such as rubber rain suit.

Eye Protection: Where potential for splash, spray or mist exists, wear chemical protective goggles or a full face shield. Emergency eye wash facilities would be located nearby. Avoid contact with the eyes.

Respiratory Protection: For splash, vapour or mist exposure wear a half face air purifying respirator which is approved for pesticides (Australian Standards). Respirator selection is based on an airborne concentration.

Gloves: Wear chemical protective gloves made of rubber or neoprene or PVC gauntlet-style gloves when handling this product. Inspect regularly for leaks.

Personal Hygiene: Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige to white liquid.
Boiling point:	Not available.
Freezing point:	Not available.
Specific gravity:	1.02 at 20°C. (water = 1).
Solubility in Water:	Insoluble. Product suspends in water.
pH:	Not available.
Flammability:	Not flammable.
Corrosive hazard:	Non corrosive; compatible with aluminium, glass & steel containers.
Flashpoint (°C):	> 100°C. Not flammable.
Flammability Limits (%):	Not established.
Poisons Schedule:	Schedule 6 poison.

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Product is considered stable in ambient conditions for a period of at least 2 years after manufacture.

Conditions to avoid: No particular conditions to avoid.

Incompatible materials: No particular materials to avoid.

Hazardous decomposition products: When the product is heated to high temperatures, the active constituent will decompose and emit toxic fumes.

Hazardous reactions: No particular reactions to avoid.

SECTION 11 | TOXICOLOGICAL INFORMATION**Potential Health Effects:**

Studies with laboratory animals have shown this product to be harmful if swallowed or inhaled. Ingestion of large doses of bifenthrin by laboratory animals produced signs of toxicity which included clonic convulsions, tremors, and bloody nasal discharge.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Swallowed: The product is harmful if swallowed; the Acute Oral LD₅₀ (rat) = 632 mg/kg.

Eye Contact: Irritating to the eyes.

Skin: This product has a low dermal toxicity. The dermal LD₅₀ (rabbit) > 2000 mg/kg. May cause skin irritation. Skin sensitising may occur in sensitive individuals.

Inhaled: The product is harmful by inhalation. Acute Inhalation LC₅₀ > 11.58 mg/L/hr.

Chronic: No data available on this formulation. In studies with laboratory animals, bifenthrin, the active ingredient in Talstar 80 SC, did not cause reproductive toxicity or teratogenicity. Tremors were associated with repeated exposure of dogs, rats, rabbits, and mice to bifenthrin. The overall results from a battery of genotoxicity studies indicate that bifenthrin is not considered to be genotoxic. Repeated over-exposure to propylene glycol may cause central nervous system effects, destruction of red blood cells and kidney damage.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Properties: No data is available on Talstar 80 SC. The active ingredient, bifenthrin, is degraded at a moderate rate in soils ($t_{1/2}$ = 50 to 205 days), and more rapidly on the surface of bare soils ($t_{1/2}$ = 7 to 62 days). Bifenthrin is tightly bound in most soils and an extremely low water solubility. Bifenthrin is toxic to aquatic organisms. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

Environmental Toxicology: Bifenthrin is highly toxic to fish and aquatic arthropods with LC₅₀ values ranging from 0.0038 µg/L to 17.8 µg/L. In general, the aquatic arthropods are the most sensitive species. Care should be taken to avoid contamination of the aquatic environment. Bifenthrin had no effect on molluscs at its limit of water solubility. Bifenthrin is only slightly toxic to both waterfowl and upland game birds (LC₅₀ values range from 1800 mg/kg to > 2,150 mg/kg). Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container.

SECTION 13 DISPOSAL CONSIDERATIONS

Spills and Disposal: In the case of spillage contain and absorb spilled material with absorbent material such as sand clay or cat litter and dispose of waste as indicated below or according to the Australian Standard 2507 - Storage and Handling of Pesticides. Wear prescribed protective clothing and equipment. Keep out animals and unprotected persons. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. To decontaminate spill area, tools and equipment, wash with a suitable solution (ie organic solvent, detergent, bleach or caustic) and add the solution to the drums of wastes already collected. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Disposal of empty containers: Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on-site. If recycling, replace cap and return clean containers to recycler or designated collection point. 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 500 mm 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. Do not re-use empty containers.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: Talstar 80 SC Insecticide/Miticide is not classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail.

Marine and Air Transport: Talstar 80 SC Insecticide/Miticide is a Marine Pollutant according to International Maritime Dangerous Goods (IMDG) Code and the International Air transport Association (IATA). If transporting by sea or air the following Dangerous Goods Classification applies:-

UN 3082, Class 9 (Miscellaneous Dangerous Goods), Packing Group III, Proper Shipping Name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains 8% Bifenthrin).

SECTION 15 REGULATORY INFORMATION

This product is hazardous according to the criteria of NOHSC Australia (Xn: Harmful).

Under the Standard for Uniform Scheduling of Drugs and Poisons (SUSDP), this product is a schedule 6 poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product Registration No. 45703.

SECTION 16 OTHER INFORMATION

Issue Date: 22 May 2008 (5 year revision).

Key to abbreviations and acronyms used in this MSDS:

ADG Code	Australian Dangerous Goods Code (for the transport of dangerous goods by Road and Rail).
ASCC	Australian Safety & Compensation Council (formally known as the National Occupational Health & Safety Commission (NOHSC)).
Carcinogen	An agent which is responsible for the formation of a cancer.
Genotoxic	Capable of causing damage to genetic material, such as DNA.
NOHSC	National Occupational Health and Safety Commission.
PPE	Personal protective equipment.
Teratogen	An agent capable of causing abnormalities in a developing foetus.
TWA	The Time Weighted Average airborne concentration over an eight-hour working day, for a five day working week over an entire working life.

References

1. "Search Hazardous Substances". Australian Safety and Compensation Council website. (2008).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.

This MSDS summarises our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

End of MSDS