

MATERIAL SAFETY DATA SHEET

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Date of Issue: March 2008
MSDS No. FMC/ BES/2

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: BESTOX PC50 Residual Insecticide

Other Names: Bestox 50F, Alpha-cypermethrin 50F.
Use: Residual and knockdown insecticide for general pest control.
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 Australia.
Not classified as a Dangerous Good according to the ADG Code.**

Risk phrases: R36 Irritating to eyes
R43 May cause sensitisation by skin contact.

Safety Phrases: S2 Keep out of reach of children.
S24/25 Avoid contact with skin and eyes.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	CAS NUMBER	PROPORTION
Alpha-cypermethrin	67375-30-8	50 g/L
Other ingredients determined not to be hazardous	Mixture	Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: If poisoning occurs, contact a doctor or Poisons Information Centre, phone 13 11 26. Thoroughly rinse mouth with water.

Eye: If in eyes, hold eyes open and flush with water for at least 15 minutes. If irritation occurs and persists, obtain medical attention.

Skin: If on skin wash with plenty of soap and water. Remove contaminated clothing. If irritation occurs and persists see a doctor. May cause sensitisation by skin contact.

Inhaled: Remove patient to fresh air. If breathing discomfort occurs, obtain medical attention.

Advice to Doctors: Bestox PC50 has low acute oral and dermal toxicity; it is expected to be moderately toxic by inhalation and minimally irritating to the eyes and may irritate the skin. Do not administer milk, cream or other substances which contain vegetable or animal fats, as they enhance absorption of the active ingredient. Central nervous system stimulation can be controlled with sedation by eg. barbiturates. Reversible skin sensations (paraesthesia) may occur and ordinary skin salves have been found useful in reducing discomfort. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Product is not flammable.

Extinguishing media: Foam, CO₂ or dry chemical. Soft stream water fog if no alternatives. Contain all runoff.

Hazards from combustion products: On burning will emit toxic fumes. In case of fire do not breathe fumes.

Precautions for fire-fighters and special protective equipment: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-contained breathing apparatus. Do not breathe or contact smoke, gases or vapours generated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Emergency procedures: Isolate and post spill area. Keep out unprotected persons and animals. Wear prescribed protective clothing and equipment.

Spills: In the case of spillage, contain spilled material and avoid spreading dust. Dispose of waste according to the Australian Standard 2507 - Storage and Handling of Pesticides. Keep material out of streams and sewers. Vacuum, shovel or pump waste into an approved drum. Label for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

Material and methods for containment and cleanup procedures: To clean spill area, tools and equipment, wash with a solution of soap, water and acetic acid/vinegar. Follow this with a neutralisation step of washing the area with a bleach or caustic soda ash solution. Finally, wash with a strong soap and water solution. Absorb, as above, any excess liquid and add both solutions to the drums of waste already collected.

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 skin and eye contact and breathing vapour. When opening the container and preparing spray, wear cotton overalls buttoned to the neck and wrist (or equivalent clothing), a washable hat, elbow-length PVC gloves and face shield or goggles. After each day's use, wash gloves, face shield or goggles and contaminated clothing

Conditions for Safe Storage: DO NOT store near (or allow to contact) fertilizers, fungicides or pesticides. Store in the closed original container, in a cool well ventilated area, out of direct sunlight. Store in a room or place away from children, animals, food, feed stuffs, seed and fertilizers.

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

No exposure standard for Alpha-cypermethrin has been established by the ASCC.

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Use in well ventilated area only. Keep containers closed when not in use.

Personal Protective equipment (PPE):

Work Clothing: Depending on circumstances encountered, wear long sleeve uniform or overalls and head covering. For larger exposures, as in the case of spills, wear full body cover barrier suit, such as rubber rain suit. Leather items such as shoes, belts and watchbands should be removed and destroyed. Launder all clothes before reuse.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Eye Protection: Where potential for splash, spray or mist exists, wear chemical protective goggles or a face shield. Avoid contact with the eyes.

Respiratory Protection: If an inhalation risk exists, wear a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (Australian Standards).

Gloves: Wear PVC gloves when handling this product. Wash the outside of gloves with soap and water prior to removal.

Personal Hygiene: Clean water should be available for washing in case of eye or skin contamination. Wash skin before eating, drinking or smoking. Shower at the end of the workday.

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	White to light tan liquid.
Odour:	No data.
Boiling point:	Not applicable.
Freezing point:	Not applicable.
Specific Gravity:	1.02-1.03 g/cm ³ @ 20°C.
pH:	6.4 to 7.0.
Solubility in Water:	Suspends in water.
Flammability:	Not flammable
Corrosive hazard:	Non corrosive
Flashpoint (°C):	Not applicable, not flammable
Flammability Limits (%):	Not flammable
Poisons Schedule:	S6

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Bestox PC50 is considered stable in ambient conditions.

Conditions to avoid: No particular conditions to avoid.

Incompatible materials: Strong oxidising agents.

Hazardous decomposition products: When the product is heated to high temperatures, thermal decomposition may generate toxic and noxious fumes.

Hazardous reactions: No particular reactions to avoid. Will not polymerise.

SECTION 11 | TOXICOLOGICAL INFORMATION

Potential Health Effects:

Effects from overexposure result from either swallowing, breathing or coming in contact with the eyes and skin. Symptoms of overexposure include tremors, loss of motor control and greater numbing, burning and tingling. These sensations are reversible and usually subside within 12 hours.

Acute

Swallowed: Bestox PC50 has low oral toxicity; the oral LD₅₀ (rat) = 3184 mg/kg. Large toxic doses administered to laboratory animals have produced symptoms such as loss of motor control, tremors, decreased activity, motor ataxia and hypersensitivity to sound.

Eye: Irritating to the eyes.

Skin: Bestox PC50 has a low dermal toxicity and can be irritating to the skin. The dermal LD₅₀ (rabbit) > 2000 mg/kg. Alpha-cypermethrin may produce skin sensitisation in laboratory animals and may produce similar effects in humans. Experience to date indicates that contact with Bestox PC50 may produce skin sensations such as numbing, burning and tingling. These sensations are reversible and usually subside within 12 hours.

Inhaled: Based on the inhalation toxicity of the active ingredient, Bestox PC50 is expected to be slightly toxic. [Calculated LC₅₀ = 6.4 mg/L/4 hour].

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Chronic: No data available on this formulation. Alpha-cypermethrin is not known to be carcinogenic, genotoxic, teratogenic or mutagenic.

SECTION 12 ECOLOGICAL INFORMATION

The physical and environmental properties as well as the environmental toxicology of Alpha-cypermethrin are similar to cypermethrin. Unless indicated the information below pertains to cypermethrin.

Physical/Environmental Properties: Cypermethrin is rapidly degraded in soil with a half-life of 2 to 4 weeks. It is readily hydrolysed under basic conditions (pH=9), but under acid or neutral conditions, hydrolysis half-life can be 20 to 29 days. Cypermethrin has a high affinity for organic matter and a Log P_{ow} of 5.0; yet because of the ease with which the material undergoes degradation, it has a very low potential for bioaccumulation and is not mobile in soil.

Environmental Toxicology: Alpha-cypermethrin is considered highly toxic to fish and aquatic arthropods and has LC₅₀ values which range from 0.93 µg/L to 2.8 µg/L. Care should be taken to avoid contamination of the aquatic environment. Cypermethrin is slightly toxic to birds and oral LD₅₀ values are greater than 10,248 mg/kg.

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal: Label all recovered material for contents. Dispose of drummed wastes, including decontamination solution, in accordance with the requirements of Local or State Waste Management Authorities.

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

Disposal of empty, non-returnable containers: Triple or preferably pressure rinse containers before disposal. Do not dispose of unused chemicals on-site. If recycling, replace lid and return containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers in a local authority landfill. If not available bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, vegetation and roots. Empty containers and product should not be burnt.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: Bestox PC50 is not classified as a Dangerous Good under the Australian Code for the Transport of Dangerous Goods by Road and Rail (7th Ed).

Marine and Air Transport: Bestox PC50 is classified as 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 5% Alpha-cypermethrin).
Hazchem code *3Z. Hazard Identification Number (HIN) 90.

SECTION 15 REGULATORY INFORMATION

Registered under the Agricultural and Veterinary Chemicals Code Act 1994, Product No. 46255.
Bestox PC 50 is a schedule 6 poison under the criteria of Standard for Uniform Scheduling of Drugs and Poisons (SUSDP No. 22).

Classified as a hazardous substance (Xi) according to criteria of the ASCC.

Not classified as a Dangerous Good according to the ADG Code (7th Ed).

Classified as a Dangerous Good according to the International Maritime Dangerous Goods (IMDG) Code and the International Air Transport Association (IATA).

SECTION 16 OTHER INFORMATION

Issue Date: 7 March 2008 **Reason for Update:** Update to sixteen section format.

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.
Mutagenic	Capable of inducing a genetic mutation in an organism.
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.
3. Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) No.22.
4. The Australian Code for the Transport of Dangerous Goods by Road & Rail (7th Edition).

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