

MATERIAL SAFETY DATA SHEET

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Date of Issue: February 2013
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: 5 Palmer place, Murarrie Qld 4172
Telephone Number: 07 3908 9208 **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 Safe Work 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
Propane-1,2-diol	57-55-6	1 – 10%
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 and give water to drink.

Eye: If in eyes, hold eyes open and flush with water until product is removed. If irritation occurs and persists, obtain medical attention.

Skin: If on skin wash with 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: Extinguish fire using media suited to burning material. If containers are ruptured contain all runoff.

Hazards from combustion products: Product is likely to decompose after heating to dryness and continued strong heating and will emit toxic fumes. Firefighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to vapour or smoke.

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 cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC gloves and face shield or goggles.

Spills: In the case of spillage, stop leak if safe to do so, and contain spill. Evacuate unprotected and unnecessary personnel from area of spill. If material is leaking from a container, stop the leak only if this can be done safely. Prevent spillage entering drains or watercourse. 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. Keep out unprotected persons and animals. Absorb spilled material with absorbent material such as sand, clay or cat litter and dispose of waste as indicated in section 13 or according to the Australian Standard 2507 - Storage and Handling of Pesticides.

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. Harmful if swallowed. Will irritate the eyes and skin. Facial skin contact may cause temporary facial numbness. Avoid contact with eyes and skin. Avoid inhaling vapour or spray mist. When preparing spray wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC gloves and face shield or goggles. If product in eyes wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. 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 this product has been established by Safe Work Australia, however the in an ingredient in this product and has the following Safe Work Australia guideline:

Atmospheric Contaminant	Exposure Standard (TWA)
Propane-1,2-diol	474 mg/m ³ (150 ppm)

TWA = Time-Weight Average

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

General: Wear cotton overalls buttoned to the neck and wrist, a washable hat, elbow-length PVC gloves and face shield or goggles. If product in eyes wash it out immediately with water. After use and before eating, drinking or smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield or goggles and contaminated clothing.

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:	This product is a schedule 6 (S6) poison.

SECTION 10 | STABILITY AND REACTIVITY

Chemical Stability: Bestox PC50 is considered stable in ambient conditions for a period of at least 2 years after manufacture. This product is unlikely to spontaneously decompose.

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.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

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].

Chronic: No data available on this formulation. In studies with laboratory animals, Alpha-cypermethrin Technical did not cause teratogenicity or reproductive toxicity. The overall results from a battery of genotoxicity studies indicate that alpha-cypermethrin is not considered to be genotoxic. Ames test results were negative.

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.

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. Alpha-cypermethrin is toxic to fish and aquatic arthropods. Do not contaminate sewers, drains, dams, creeks or any other waterways with product or the used container

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.

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. On site disposal of the concentrated product is not acceptable. Ideally the product should be used for its intended purpose. If there is a need to dispose of the product, approach local authorities who hold periodic collections of unwanted chemicals (ChemClear®).

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 exempt from classification as a Dangerous Good in packs less than 3,000 kg or litres under the Australian Code for the Transport of Dangerous Goods by Road and Rail. For bulk shipments this product is a class 9, UN 3082. (See special provision AU01).

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 Medicines and Poisons (SUMDP).

This product is classified as a Hazardous Substance under the criteria of Safe Work Australia. Xi: irritant.

This product is not classified as a Dangerous Good according to the ADG Code for packs less than 3000 litres (SP AU01) (7th Ed).

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

Requirements concerning special training:

Check State or Territory regulations that require people who use pesticides in their job or business to have training in the application of the materials.

SECTION 16 OTHER INFORMATION

Issue Date: 1 February 2013. Valid for 5 years **Reason for Update:** (5 year update).

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).

Ataxia: Inability to control the coordinate movements of the muscles.

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.

Safe Work Australia: Formally known as Australian Safety & Compensation Council (ASCC) which was formally known as the National Occupational Health & Safety Commission (NOHSC).

References

1. "Search Hazardous Substances". Safe Work Australia website. (2013).
2. "Approved Criteria for Classifying Hazardous Substances" 3rd Ed. NOHSC Australia. [NOHSC:1008 (2004)]. October 2004.
3. Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) No. 3.
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