

MATERIAL SAFETY DATA SHEET

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Date of Issue: May 2009
MSDS No. FMC/ASTRO/2

SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: ASTRO[®] AEROSOL RESIDUAL INSECTICIDE

Other Names: Permethrin.
Use: Aerosol insecticide for use against ants, cockroaches, fleas, spiders and silverfish.
Company: FMC Australasia Pty Ltd.
Address: Unit 28, 9 Metroplex Ave, 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 ASCC.
Classified as a Dangerous Good according to the ADG Code.**

Risk phrases: R43 May cause sensitisation by skin contact. (Xi).
R65 Harmful: may cause lung damage if swallowed. (Xn).
Safety Phrases: S2 Keep out of reach of children.
S3 Keep in a cool place.
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe vapour or spray.
S24/25 Avoid contact with skin and eyes.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

CHEMICAL	CAS NUMBER	PROPORTION
Permethrin	52645-53-1	1% w/w
Paraffinic Hydrocarbon	64742-88-7	10-30 %w/w
Other ingredients determined not to be hazardous including LPG propellant	mixture	Balance

SECTION 4 FIRST AID MEASURES

FIRST AID

Swallowed: If poisoning occurs, contact a doctor or Poisons Information Centre. Phone Australia (13 11 26). If any discomfort persists seek medical advice.

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.

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

SECTION 5 FIRE FIGHTING MEASURES

Specific Hazard: Product is highly flammable. Contents are under pressure. Propellant is liquefied petroleum gas (LPG). Containers may 'rocket' or explode in heat of fire.

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 of carbon monoxide, carbon dioxide, hydrogen chloride, chlorine, etc.

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. Cool containers and use caution when approaching containers.

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: Eliminate all sources of ignition. Ventilate area. As contents are in an aerosol can it is unlikely that there will be any material to clean up. In the case where there is material to clean up, contain and absorb spilled material with absorbent material such as sand, clay or cat litter and 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. Use non-sparking tools. 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.

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.

Conditions for Safe Storage: Do not store near naked flames or other sources of ignition. 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.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

National Exposure Standards:

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

Atmospheric Contaminant	Exposure Standard (TWA) ^a	Proportion in Astro
Butylated hydroxytolulene	10 mg/m ³	< 1%
TWA = Time-weight Average		

It is highly unlikely that atmospheric concentrations of Butylated hydroxytolulene will reach the above concentrations when used as directed.

SECTION 8 | EXPOSURE CONTROLS / PERSONAL PROTECTION (Continued)

Biological Limit Values:

No biological limit allocated.

Engineering controls:

Natural ventilation should be adequate. Ventilate all transport vehicles prior to unloading.

Personal Protective equipment (PPE):

For general use personal protective equipment should not be necessary. Do not spray in eyes or on skin.

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

SECTION 9 | PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear pale yellow liquid.
Odour:	Mild aromatic odour.
Boiling point:	Not available.
Freezing point:	Not available.
Specific Gravity:	0.77 g/mL at 25°C.
pH:	Not available.
Solubility in Water:	Product suspends in water.
Flammability:	Highly flammable.
Corrosive hazard:	Not known to be corrosive.
Flashpoint (°C):	-104 to -60°C (LPG).
Flammability Limits (%):	No data available for this product.
Poisons Schedule:	Product is not a scheduled 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: Keep in a cool place. Do not expose to sources of ignition. This product is highly flammable. DO NOT use in confined spaces. DO NOT use close to ignition sources.

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 permethrin (the active ingredient in this product) to have low oral, dermal and inhalation toxicity. It is minimally irritating to the eyes and practically non-irritating to the skin. Permethrin is a skin sensitiser. Experience to date indicates that contact with permethrin may produce skin sensations such as numbing, burning or tingling. These sensations are reversible and usually subside within 12 hours. Large doses of permethrin ingested by laboratory animals produced signs symptoms such as diarrhoea, salivation, tremors and intermittent convulsions. Overexposure of animals to permethrin via inhalation has also produced hyperactivity and hypersensitivity.

SECTION 11 TOXICOLOGICAL INFORMATION (Continued)

Acute

Swallowed: Due to the high volatility of this product, this is unlikely to occur.

Eye: Severly irritating to the eyes.

Skin: Mildly irritating. Avoid contact with skin. Liquid contact can cause freezing of tissue, resulting in an injury similar to a thermal burn.

Inhaled: Inhalation of spray or vapour may produce respiratory irritation and can result in headaches, dizziness and possibly nausea. Excessive exposure may cause unconsciousness, or even death, due to asphyxiation.

Chronic: No data available on this formulation. In studies with laboratory animals, Permethrin Technical did not cause teratogenicity or reproductive toxicity. The overall results from a battery of genotoxicity studies indicate that permethrin is not considered to be genotoxic. Ames test results were negative. The potential for induction of oncogenicity is extremely low. Long term feeding studies in animals resulted in increased liver and kidney weights, induction of liver microsomal drug metabolising enzyme system, and histopathological changes to the lungs and liver.

SECTION 12 ECOLOGICAL INFORMATION

Environmental Toxicology: No data is available on Axe Insecticide. The active ingredient, Permethrin is highly toxic to aquatic organisms. Marine species are often more sensitive than freshwater species. Permethrin is only slightly toxic to birds with acute oral LD₅₀ > 3600 mg/kg.

Environmental Properties: No data is available on Astro Insecticide. The active ingredient, Permethrin, degrades at a moderate rate in soils. Permethrin is tightly bound in most soils (K_{oc} = 86,000), with little potential for movement into soil or groundwater. Permethrin has a Log P_{ow} of 6.1, but because of the ease with which biological systems degrade the molecule, the potential for bioaccumulation and accumulation in the environment is low.

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

Disposal of empty containers: Do not puncture or incinerate empty can. Recycle empty cans if a facility is available, or place used can in household rubbish.

SECTION 14 TRANSPORT INFORMATION

Road & Rail Transport: Astro Aerosol is classified as a Dangerous Goods under the Australian Code for the Transport of Dangerous Goods by Road and Rail. UN 1950, Proper shipping name: AEROSOLS, class 2.1, no packaging group allocated, Hazchem 2YE.

Marine and Air Transport: UN 1950, Proper shipping name: AEROSOLS, class 2.1, no packaging group allocated, Hazchem 2YE.

SECTION 15 REGULATORY INFORMATION

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

Under the Standard for Uniform Scheduling of Drugs and Poisons (SUSDP No. 23), this product is not a scheduled poison.

This product is registered under the Agricultural and Veterinary Chemicals Code Act 1994. Product No. 54090.

Product is classified as a Dangerous Good according to the ADG Code (7th Ed).

Product is 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: 1 May 2009 (updated to 16 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.

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