

MATERIALS SAFETY DATA SHEET

Astex "Active" Bed Guards

ACP Solutions Limited

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Manufacturer: ACP Solutions Limited
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1. CHEMICAL PRODUCT INFORMATION

PRODUCT NAME: Astex Covers
CHEMICAL NAME/SYNONYM: Permethrin
CHEMICAL FAMILY NAME: Pyrethroid Pesticide
FORMULA: C₂₁ H₂₀ C₁₂ O₃
EPA REGISTRATION NO: 71012-1
CODE NUMBER: N/A

2. COMPOSITION /INFORMATION ON INGREDIENTS

Component (chemical, common name)	Wt%	PEL/TLV	OSHA
Permethrin; (3-Phenoxyphenyl methyl (±) <i>cis-trans</i> 3- (2,2-dichloroethenyl)-2,2- dimethylcyclopropanecarboxylate	1.32%	None	None
CAS NUMBER: 52645-52-1			
Inert Ingredient (Polyester Fabric)	98.68%	None	None

3. HAZARD INFORMATION

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Based on product form, method of use and use history, no toxicity in humans has been reported. However permethrin is a pyrethroid pesticide. Symptoms of overexposure to permethrin concentrate may include increased hypersensitivity to touch and sound, tremors and convulsions. Contact with permethrin concentrate may produce skin sensations such as numbing,

Product Name: Astex “Active” Bed Guards

burning or tingling. These skin sensations are reversible and usually subside within 12 hours.

PRIMARY ROUTE OF ENTRY:

DERMAL/EYE: YES
ORAL: NO
INHALATION: NO

ACUTE TOXICITY:

ORAL: LD50 (rat) = 998mg/kg
DERMAL LD50 (rabbit) > 2000 mg/kg
INHALATION LC50 (rat) > 4.30 mg/L/4hr

OTHER TOXICOLOGICAL INFORMATION:

Permethrin has low oral, dermal and inhalation toxicity. It is minimally irritating to the eyes and slightly irritating to the skin. Experience to date indicates that contact with permethrin has rarely produced skin sensations such as numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours. Large toxic doses of permethrin administered to laboratory animals have produced central nervous system effects with symptoms that include hypersensitivity to touch and sound, tremors and clonic convulsions. In studies with laboratory animals, permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long term feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system, and histopathological changes in the lungs and liver. An overall absence of genotoxicity has been demonstrated in mutagenicity testing with permethrin.

4. FIRST AID MEASURES

EYE: Flush with gently flowing water to effect. If irritation persists seek medical attention.

SKIN: Wash with soap and water. Seek medical attention if irritation occurs and persists.

INGESTION: Consult a physician.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, seek medical attention.

5. FIRE FIGHTING MEASURES

FLAMMABILITY CLASS: Combustible solid

FLASH POINT: Not applicable

EXPLOSIVE LIMITS: (% of volume). Not applicable

EXTINGUISHING MEDIA: Water, foam, CO₂, dry chemical

SPECIAL PROTECTIVE EQUIPMENT: Use NIOSH approved SCBA and full protective

Product Name: Astex “Active” Bed Guards

equipment.

FIRE FIGHTING PROCEDURES: Normal procedures. Contain all runoff.

COMBUSTION PRODUCTS: Chlorine, hydrogen chloride, carbon dioxide, carbon monoxide, and aldehydes.

UNUSUAL FIRE/EXPLOSION HAZARDS: None.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN: Because of individual packaging, possibilities of release or spill are remote. However should one occur, place in container for proper disposal.

ABSORBENTS: None necessary due to product form.

INCOMPATIBLES: Strong oxidizers.

7. HANDLING AND STORAGE

HANDLING: Wash hands with soap and water after handling product.

STORAGE: Store in cool, dry well ventilated place. Do not use or store near hear, open flame or hot surfaces. Store in original container. Store at temperatures above 40 F (5 C).

8 EXPOSURE CONTROL/PERSONAL PROTECTION

EXPOSURE LIMITS: Not established (OSHA PEL and ACGIH TLV)

VENTILATION: Natural ventilation sufficient.

PERSONAL PROTECTIVE EQUIPMENT: If extensive exposure is anticipated, handlers should wear a MSHA/NIOSH approved organic vapour/dust pesticide respirator, impervious gloves, goggles and other appropriate clothing to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOUR: Polyester fabric; no detectable odour.

BOILING POINT: N/A

MELTING POINT: N/A

VAPOUR PRESSURE: (mm Hg): N/A

VAPOUR DENSITY: (Air = 1): N/A

BULK DENSITY: N/A

SOLUBILITY: Negligible

EVAPORATION RATE: N/A

pH: N/A

10. STABILITY AND REACTIVITY

STABILITY: Stable

REACTIVITY: Nonreactive

INCOMPATIBILITY WITH OTHER MATERIALS: Strong Oxidizer

HAZARDOUS POLYMERIZATION: Will not occur.

Product Name: Astex “Active” Bed Guards

11. TOXICOLOGICAL INFORMATION

ACUTE EFFECTS FROM OVEREXPOSURE:

Permethrin has low oral, dermal and inhalation toxicity. It is minimally irritating to eyes and slightly irritating to the skin. Experience to date indicates that contact with permethrin has rarely produced skin sensations such as numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours. Large toxic doses of permethrin administered to laboratory animals have produced central nervous system, effects with symptoms that include hypersensitivity to touch and sound, tremors and clonic convulsions.

CHRONIC EFFECTS FROM OVEREXPOSURE:

In studies with laboratory animals, permethrin did not cause reproductive toxicity or teratogenicity. Analysis of chronic feeding studies in both mice and rats with permethrin resulted in the conclusion that permethrin's potential for induction of oncogenicity in experimental animals is low and that the likelihood of oncogenic effects in humans is nonexistent or extremely low. Long term feeding studies in animals resulted in increased liver and kidney weights, induction of the liver microsomal drug metabolizing enzyme system, and histopathological changes in the lungs and liver. An overall absence of genotoxicity has been demonstrated in mutagenicity testing with permethrin.

CARCINOGENICITY:

IARC:	No
NTP:	No
OSHA	No

12. ECOLOGICAL INFORMATION

PHYSICAL/ENVIRONMENTAL PROPERTIES: In soil, permethrin is stable over a wide range of pH values. When applied at agricultural use rates, permethrin has a moderate rate of degradation in soil. At termiticidal use rates, permethrin degrades at a slower rate which is governed by soil characteristics. Due to its high affinity for organic matter ($K_{09} = 86,000$), there is little potential for movement in soil or entry into ground water. Permethrin has a Log P_{ow} of 6:1, but a low potential to bioconcentrate (BCF = 500) due to the ease with which it is metabolizes.

ENVIRONMENTAL TOXICOLOGY: Permethrin is highly toxic to fish (LC50 = 0.5 $\mu\text{g/L}$ to 315 $\mu\text{g/L}$) and aquatic arthropods (LC50 = 0.02 $\mu\text{g/L}$ to 7.6 $\mu\text{g/L}$). Marine species are often more sensitive than the freshwater species. Bacteria, algae, molluscs and amphibians are much more tolerant of permethrin than the fish and arthropods. Care should be taken to avoid contamination of the aquatic environment. Permethrin is slightly toxic to birds and oral LD50 values are greater than 3600 mg/kg. Longer dietary studies showed that concentrations of up to 500 ppm in the diet had no effect on bird reproduction.

Product Name: Astex “Active” Bed Guards

13. DISPOSAL CONSIDERATIONS

Do not reuse container or used cover. Do not contaminate water or food by disposal. For household waste, wrap and put in refuse container.

14. TRANSPORTATION INFORMATION

DOT49CFR DESCRIPTION: Not regulated as hazardous by D.O.T

REPORTABLE QUANTITY: Not Listed

FREIGHT CLASSIFICATION: Non Hazardous

15. REGULATORY INFORMATION

U.S. CERCLA (Superfund): Reportable Quantity (RQ) (CFR Table 302.4): Not Listed

U.S. SARA 311/312 HAZARD CATEGORIES: Immediate (irritation)

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