

**SAFETY DATA SHEET**  
**ASTRO® INSECTICIDE**

SDS # : 1784-1-A  
Revision date: 2015-04-10  
Format: NA  
Version 1



## 1. PRODUCT AND COMPANY IDENTIFICATION

### Product Identifier

**Product Name** ASTRO® INSECTICIDE

### Other means of identification

**Product Code(s)** 1784-1-A

**Synonyms** FMC 33297; 3-phenoxybenzyl  
(1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate;  
(3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate

**Active Ingredient(s)** Permethrin

**Chemical Family** Pyrethroid Pesticide

### Recommended use of the chemical and restrictions on use

**Recommended Use:** Insecticide

**Restrictions on Use:** Use as recommended by the label

### Manufacturer Address

FMC Corporation  
1735 Market Street  
Philadelphia, PA 19103  
(215) 299-6000 (General Information)  
msdsinfo@fmc.com (E-Mail General Information)

### Emergency telephone number

Medical Emergencies:  
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)  
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)  
For leak, fire, spill or accident emergencies, call:  
1 800 / 424 9300 (CHEMTREC - U.S.A.)  
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

## 2. HAZARDS IDENTIFICATION

### Classification

#### OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin sensitization	Category 1B
Specific target organ toxicity (single exposure)	Category 2
Specific target organ toxicity (repeated exposure)	Category 2


Aspiration toxicity	Category 1
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**GHS Label elements, including precautionary statements**

**EMERGENCY OVERVIEW**

**Danger**

**Hazard Statements**  
 H302 - Harmful if swallowed  
 H304 - May be fatal if swallowed and enters airways  
 H317 - May cause an allergic skin reaction  
 H332 - Harmful if inhaled  
 H371 - May cause damage to organs  
 H373 - May cause damage to organs through prolonged or repeated exposure



**Precautionary Statements - Prevention**

- P264 - Wash face, hands and any exposed skin thoroughly after handling
- P270 - Do not eat, drink or smoke when using this product
- P272 - Contaminated work clothing should not be allowed out of the workplace
- P280 - Wear protective gloves
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray

**Precautionary Statements - Response**

- P321 - Specific treatment (see .? on this label)
- P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor
- P302 + P352 - IF ON SKIN: Wash with plenty of water and soap
- P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
- P363 - Wash contaminated clothing before reuse
- P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
- P312 - Call a POISON CENTER or doctor if you feel unwell
- P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor
- P331 - Do NOT induce vomiting
- P330 - Rinse mouth

**Precautionary Statements - Storage**

- P405 - Store locked up

**Precautionary Statements - Disposal**

- P501 - Dispose of contents/ container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

No hazards not otherwise classified were identified.

**Other Information**

Very toxic to aquatic life with long lasting effects  
 Causes mild skin irritation  
 May be harmful in contact with skin

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Chemical Family** Pyrethroid Pesticide.

Chemical name	CAS-No	Weight %
Permethrin	52645-53-1	36.8
Petroleum distillates, hydrotreated light	64742-47-8	10-20

1,1'-Biphenyl, bis(1-methylethyl)-	69009-90-1	20-30
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Synonyms are provided in Section 1.

#### 4. FIRST AID MEASURES

<b>Eye Contact</b>	Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.
<b>Skin Contact</b>	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.
<b>Ingestion</b>	Immediately call a poison control center or doctor Do not induce vomiting unless told to do so by a poison control center or doctor Do not give any liquid to the person Do not give anything by mouth to an unconscious person.
<b>Most important symptoms and effects, both acute and delayed</b>	Central nervous system effects.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	This product is a pyrethroid. If large amounts have been ingested, the stomach and intestines should be evacuated. Treatment is symptomatic and supportive. Digestible fats, oils, or alcohol may increase absorption and so should be avoided. Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

#### 5. FIRE-FIGHTING MEASURES

<b>Suitable Extinguishing Media</b>	Foam. Carbon dioxide (CO <sub>2</sub> ). Dry chemical. Water spray or fog.
<b>Specific Hazards Arising from the Chemical</b>	Combustible liquid
<b><u>Explosion data</u></b>	
<b>Sensitivity to Mechanical Impact</b>	Not sensitive.
<b>Sensitivity to Static Discharge</b>	Not sensitive.
<b>Protective equipment and precautions for firefighters</b>	As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate downwind.

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.
<b>Other</b>	For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.
<b>Environmental Precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for Containment</b>	Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.
<b>Methods for cleaning up</b>	Clean and neutralize spill area, tools and equipment by washing with bleach water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

#### 7. HANDLING AND STORAGE

<b>Handling</b>	Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.
<b>Storage</b>	Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Keep/store only in original container.
<b>Incompatible products</b>	None known

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Chemical name	British Columbia	Quebec	Ontario TWAEV	Alberta
Petroleum distillates, hydrotreated light 64742-47-8	TWA: 200 mg/m <sup>3</sup> Skin	-	-	-

### Appropriate engineering controls

<b>Engineering measures</b>	Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.
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### Individual protection measures, such as personal protective equipment

<b>Eye/Face Protection</b>	If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.
<b>Skin and Body Protection</b>	Wear long-sleeved shirt, long pants, socks, and shoes.
<b>Hand Protection</b>	Protective gloves
<b>Respiratory Protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene measures</b>	Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing before re-use. Launder work clothing separately from regular household laundry.
<b>General information</b>	If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Amber, Liquid
<b>Physical State</b>	Liquid
<b>Color</b>	Amber
<b>Odor</b>	Faint hydrocarbon
<b>Odor threshold</b>	No information available
<b>pH</b>	3.75
<b>Melting point/freezing point</b>	Not applicable
<b>Boiling Point/Range</b>	No information available
<b>Flash point</b>	82.2 °C / 179.96 °F Tag Closed Cup
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Flammability Limit in Air</b>	No information available

Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	No information available
Vapor density	No information available
Density	8.61 lb/gal
Specific gravity	1.033 @ 20 °C
Water solubility	Emulsifies
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	No information available
Bulk density	No information available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	None under normal use conditions
<b>Chemical Stability</b>	Stable under recommended storage conditions.
<b>Possibility of Hazardous Reactions</b>	None under normal processing.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Excessive heat, Extreme risk of explosion by shock, friction, fire or other sources of ignition
<b>Incompatible materials</b>	None known.
<b>Hazardous Decomposition Products</b>	Chlorine, Hydrogen chloride, Carbon oxides (COx), Aldehydes.

## 11. TOXICOLOGICAL INFORMATION

### Product Information

<b>LD50 Oral</b>	998 mg/kg (rat)
<b>LD50 Dermal</b>	> 2,000 mg/kg (rabbit)
<b>LC50 Inhalation</b>	> 4.3 mg/L 4 hr (rat)
<b>Serious eye damage/eye irritation</b>	Mildly irritating.
<b>Skin corrosion/irritation</b>	Moderately irritating.
<b>Sensitization</b>	Sensitizer.

### Information on toxicological effects

<b>Symptoms</b>	Large toxic doses of the formulated product, administered by ingestion to animals, produced central nervous system effects with symptoms that include hypersensitivity to touch and sound, tremors, and clonic convulsions. Overexposure via inhalation produced symptoms such as squinting eyes, irregular and rattling breathing, and ataxia.
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Chronic toxicity</b>	Effects are expected to be similar to those that are seen with acute toxicity.
<b>Mutagenicity</b>	Permethrin: Not genotoxic in laboratory studies.
<b>Carcinogenicity</b>	Permethrin: Evidence of tumors in mice but is not considered relevant to humans.
<b>Neurological effects</b>	Permethrin: Clinical signs of neurotoxicity include altered motor activity and FOB effects, with no signs of histopathology.
<b>Reproductive toxicity</b>	Permethrin: No toxicity to reproduction in animal studies.
<b>Developmental toxicity</b>	Permethrin: Not teratogenic in animal studies.

**STOT - single exposure** May cause damage to organs. See listed target organs below.  
**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure. See listed target organs below.  
**Target organ effects** Permethrin: Central Nervous System (CNS).  
**Neurological effects** Permethrin: Clinical signs of neurotoxicity include altered motor activity and FOB effects, with no signs of histopathology.  
**Aspiration hazard** Potential for aspiration if swallowed.

Chemical name	ACGIH	IARC	NTP	OSHA
Permethrin 52645-53-1		Group 3		

IARC (International Agency for Research on Cancer)  
 Group 3 - Not classifiable as to its carcinogenicity to humans

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Permethrin (52645-53-1)				
Active Ingredient(s)	Duration	Species	Value	Units
Permethrin	48 h EC50	Crustacea	0.001	mg/L
	72 h EC50	Algae	0.0125	mg/L
	96 h LC50	Fish	0.79	µg/L
	21 d NOEC	Crustacea	0.039	µg/L
	96 hr NOEC	Algae	0.9	µg/L
	21 d NOEC	Fish	0.3	µg/L

**Persistence and degradability** Permethrin: Moderately persistent. Does not readily hydrolyze. Not readily biodegradable.

**Bioaccumulation** Permethrin: The substance has a potential for bioconcentration.

**Mobility** Permethrin: Immobile; Not expected to reach groundwater.

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal methods** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

**Contaminated Packaging** Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

**14. TRANSPORT INFORMATION**

**DOT** The classification below pertains to the shipment in bulk and non-bulk packaging.

<b>UN/ID no</b>	NA1993
<b>Proper Shipping Name</b>	Combustible liquid, n.o.s
<b>Hazard class</b>	Combustible
<b>Packing Group</b>	III
<b>Description</b>	NA1993, Combustible liquid, n.o.s. (Aromatic hydrocarbons), III

**TDG** Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

<b>UN/ID no</b>	UN3082
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Hazard class</b>	9
<b>Packing Group</b>	III
<b>Marine Pollutant</b>	Permethrin.

**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (permethrin), 9, PGIII, Marine Pollutant

**ICAO/IATA**

**UN/ID no** UN3082  
**Proper Shipping Name** Environmentally hazardous substance, liquid, n.o.s.  
**Hazard class** 9  
**Packing Group** III  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (permethrin), 9, PGIII, Marine Pollutant

**IMDG/IMO**

**UN/ID no** UN3082  
**Proper Shipping Name** Environmentally hazardous substance, liquid, n.o.s.  
**Hazard class** 9  
**Packing Group** III  
**EmS No.** F-A, S-F  
**Marine Pollutant** Permethrin  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s. (permethrin), 9, PGIII, Marine Pollutant

**Classification code** M6

**15. REGULATORY INFORMATION**

**U.S. Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Permethrin - 52645-53-1	52645-53-1	36.8	1.0

**SARA 311/312 Hazard Categories**

**Acute health hazard** Yes  
**Chronic health hazard** Yes  
**Fire hazard** Yes  
**Sudden release of pressure hazard** No  
**Reactive Hazard** No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

**FIFRA Information**

*This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:*

**CAUTION**

*Harmful if swallowed. Harmful if absorbed through the skin. Prolonged or frequent skin contact may cause allergic reactions in some individuals.  
 This product is extremely toxic to fish and aquatic invertebrates.*

**US State Regulations**

**ASTRO® INSECTICIDE**

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**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Permethrin 52645-53-1	X	X	

**International Inventories**

Component	TSCA (United States)	DSL (Canada)	EINECS/ELI NCS (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Permethrin 52645-53-1 ( 36.8 )			X	X	X	X	X	X
Petroleum distillates, hydrotreated light 64742-47-8 ( 10-20 )	X	X	X	X	X	X	X	X
1,1'-Biphenyl, bis(1-methylethyl)- 69009-90-1 ( 20-30 )	X	X	X	X	X			

**Mexico - Grade** Moderate risk, Grade 2

**WHMIS Hazard Class** D2B - Toxic materials



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards 2</b>	<b>Flammability 2</b>	<b>Instability 0</b>	<b>Special Hazards -</b>
<b>HMIS</b>	<b>Health Hazards 2*</b>	<b>Flammability 2</b>	<b>Physical hazard 0</b>	<b>Personal Protection X</b>

**NFPA/HMIS Ratings Legend** \* - Chronic hazard

**Revision date:** 2015-04-10  
**Revision note** Format Change

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**End of Safety Data Sheet**