

SAFETY DATA SHEET
ASTRO® INSECTICIDE

SDS # : 1784-1-A
Revision date: 2019-06-03
Format: NA
Version 1.04



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name ASTRO® INSECTICIDE

Other means of identification

Product Code(s) 1784-1-A

Synonyms PERMETHRIN (FMC 33297): 3-phenoxybenzyl (1RS,3RS;1RS,3SR)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate or 3-phenoxybenzyl (1RS)-cis-trans-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate (IUPAC name); (3-phenoxyphenyl)methyl 3-(2,2-dichloroethenyl)-2,2-dimethylcyclopropanecarboxylate (CAS name)

Active Ingredient(s) Permethrin

Chemical Family Pyrethroid Pesticide

Alternate Commercial Name Dagnet FT, Dagnet 36.8 EC Termiticide/Insecticide

Recommended use of the chemical and restrictions on use

Recommended Use: Insecticide

Restrictions on Use: Use as recommended by the label.

Supplier Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

Medical Emergencies :
1 800 / 331-3148 (U.S.A. & Canada)
1 651 / 632-6793 (All Other Countries - Collect)

For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

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 |

GHS Label elements, including precautionary statements**EMERGENCY OVERVIEW**

| |
|---|
| <p>Danger</p> <p>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</p>  |
|---|

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

- 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 |

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

| | |
|---|---|
| Eye Contact | 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. |
| Skin Contact | 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. |
| Inhalation | 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. |
| Ingestion | 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. |
| Most important symptoms and effects, both acute and delayed | Central nervous system effects. |
| Indication of immediate medical attention and special treatment needed, if necessary | 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

| | |
|--|---|
| Suitable Extinguishing Media | Foam. Carbon dioxide (CO ₂). Dry chemical. Water spray or fog. |
| Specific Hazards Arising from the Chemical | Combustible liquid |
| Explosion data | |
| Sensitivity to Mechanical Impact | No information available. |
| Sensitivity to Static Discharge | No information available. |
| Protective equipment and precautions for firefighters | As in any fire, wear self-contained breathing apparatus and full protective gear. Isolate fire area. Evaluate upwind. |

6. ACCIDENTAL RELEASE MEASURES

| | |
|----------------------------------|--|
| Personal Precautions | 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. |
| Other | For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above. |
| Environmental Precautions | Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains. Keep out of waterways. |
| Methods for Containment | Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. |

Methods for cleaning up Clean and neutralize spill area, tools and equipment by washing with 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

Handling Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Storage 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.

Incompatible products 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 ³ Skin | - | - | - |

Appropriate engineering controls

Engineering measures 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.

Individual protection measures, such as personal protective equipment

Eye/Face Protection If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin and Body Protection Wear long-sleeved shirt, long pants, socks, and shoes.

Hand Protection Protective gloves

Respiratory Protection 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.

Hygiene measures 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.

General information 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

Appearance Amber Liquid
Physical State Liquid
Color Amber
Odor Faint hydrocarbon

| | |
|------------------------------|------------------------------------|
| Odor threshold | No information available |
| pH | 3.75 |
| Melting point/freezing point | Not applicable |
| Boiling Point/Range | No information available |
| Flash point | 82.2 °C / 179.96 °F Tag Closed Cup |
| Evaporation Rate | No information available |
| Flammability (solid, gas) | No information available |
| Flammability Limit in Air | |
| Upper flammability limit: | No information available |
| Lower flammability limit: | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative 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

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

11. TOXICOLOGICAL INFORMATION

Product Information

| | |
|-----------------------------------|------------------------|
| LD50 Oral | 998 mg/kg (rat) |
| LD50 Dermal | > 2000 mg/kg (rabbit) |
| LC50 Inhalation | > 4.3 mg/L 4 hr (rat) |
| Serious eye damage/eye irritation | Mildly irritating. |
| Skin corrosion/irritation | Moderately irritating. |
| Sensitization | Sensitizer |

| Chemical name | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|--|----------------------|-------------------------|-------------------------|
| Permethrin (52645-53-1) | 3129 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 2.09 mg/L (Rat) 4 h |
| Petroleum distillates, hydrotreated light (64742-47-8) | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5.2 mg/L (Rat) 4 h |

Information on toxicological effects

| | |
|----------|---|
| Symptoms | 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. |
|----------|---|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

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

Legend:
 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 |
| | 21 d NOEC | Crustacea | 0.039 | µg/L |
| | 96 hr NOEC | Algae | 0.9 | µg/L |
| | 21 d NOEC | Fish | 0.3 | µg/L |
| | 96 h LC50 | Fish | 5.3 | mg/L |
| | 96 h EC50 | Algae | 0.010 | mg/L |

| Chemical name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---|---|--|---|
| Glycerol triacetate 102-76-1 | | 48 h LC50: = 170 mg/L (Leuciscus idus) static | 48 h EC50: = 380 mg/L (Daphnia magna) |
| Petroleum distillates, hydrotreated light 64742-47-8 | | 96 h LC50: = 2.2 mg/L (Lepomis macrochirus) static 96 h LC50: = 2.4 mg/L (Oncorhynchus mykiss) static 96 h LC50: = 45 mg/L (Pimephales promelas) flow-through | 96 h LC50: = 4720 mg/L (Den-dronereides heteropoda) |
| 2-methylpropan-1-ol 78-83-1 | 48 h EC50: = 230 mg/L (Desmodesmus subspicatus) | 96 h LC50: 1120 - 1520 mg/L (Oncorhynchus mykiss) flow-through 96 h LC50: 1370 - 1670 mg/L (Pimephales promelas) flow-through 96 h LC50: 1480 - 1730 mg/L (Lepomis macrochirus) flow-through 96 h LC50: = 375 mg/L | 48 h EC50: 1070 - 1933 mg/L (Daphnia magna) Static 48 h EC50: = 1300 mg/L (Daphnia magna) |

| | | |
|--|------------------------------|--|
| | (Pimephales promelas) static | |
|--|------------------------------|--|

| | |
|--------------------------------------|---|
| 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. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal. |
| 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 Not regulated for transportation if shipped in Non Bulk packaging. The classification below pertains to the shipment in Bulk packaging.

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

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

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):

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|--------------------------------|--------------------------|------------------------------------|
| 2-methylpropan-1-ol 78-83-1 | 5000 lb 2270 kg | |

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

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

| Chemical name | TSCA (United) | DSL (Canada) | EINECS/ELINC S (Europe) | ENCS (Japan) | China (IECSC) | KECL (Korea) | PICCS (Philippines) | AICS (Australia) |
|---------------|---------------|--------------|-------------------------|--------------|---------------|--------------|---------------------|------------------|
| | | | | | | | | |

ASTRO® INSECTICIDE

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 Version 1.04

| | | | | | | | | |
|--|----------------|---|---|---|---|---|---|---|
| | States) | | | | | | | |
| Permethrin 52645-53-1 | | | X | X | X | X | X | X |
| Petroleum distillates, hydrotreated light 64742-47-8 | X | X | X | | X | X | X | X |
| 1,1'-Biphenyl, bis(1-methylethyl)- 69009-90-1 | X | X | X | X | X | | | |

Mexico - Grade Moderate risk, Grade 2

WHMIS Statement

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

WHMIS Hazard Class D2B - Toxic materials



16. OTHER INFORMATION

| | | | | |
|-------------|--------------------------|-----------------------|--------------------------|------------------------------|
| NFPA | Health Hazards 2 | Flammability 2 | Instability 0 | Special Hazards - |
| HMIS | Health Hazards 2* | Flammability 2 | Physical hazard 0 | Personal Protection X |

**Indicates a chronic health hazard.*

NFPA/HMIS Ratings Legend Severe = 4; Serious = 3; Moderate = 2; Slight = 1; Minimal = 0

Revision date: 2019-06-03
Reason for revision: SDS sections updated

Disclaimer

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End of Safety Data Sheet