

MATERIAL SAFETY DATA SHEET - ZODIAC® FLEATROL™ PREMISE SPRAY II

Manufacturer: Sandoz Agro, Inc.
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1. CHEMICAL PRODUCT INFORMATION

Product Name: Zodiac® Fleatrol™ Premise Spray II
Chemical Name/Synonym: (S)-Methoprene: [Isopropyl (2E, 4E, 7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate], and Permethrin: [(3-phenoxyphenyl)methyl(+/-)cistrans-3-(2,2-dichloroethyl)-2,2-dimethyl cyclopropanecarboxylate]
Chemical Family: Terpenoid/Pyrethroid
Formula: C₂₁ H₂₀ O₃ • C₁₉ H₃₄ O₃
EPA Registration No.: 55947-158
RF Number: 9404.002

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component (chemical, common name)</u>	<u>CAS Number</u>	<u>Wt%</u>
(S)-Methoprene: [Isopropyl (2E, 4E, 7S)-11-methoxy-3,7,11-trimethyl-2,4-dodecadienoate]	65733-16-6	0.09%
Permethrin: [(3-phenoxyphenyl)methyl (+/-)cistrans-3-(2,2-dichloroethyl)-2,2-dimethyl cyclopropanecarboxylate]	52645-53-1	0.50%
Propane	24-98-6	3.2%

3. HAZARD INFORMATION**PRECAUTIONARY STATEMENT**

CAUTION: KEEP OUT OF REACH OF CHILDREN. HARMFUL IF SWALLOWED. MAY BE ABSORBED THROUGH SKIN. AVOID INHALATION OF SPRAY MIST. AVOID CONTACT WITH SKIN, EYES, OR CLOTHING. WASH THOROUGHLY AFTER HANDLING AND BEFORE SMOKING OR EATING. AVOID CONTAMINATION OF FOODSTUFFS. REMOVE PETS AND BIRDS AND COVER AND UNPLUG FISH AQUARIUMS BEFORE SPACE SPRAYING OR SURFACE TREATMENT AND VENTILATE BEFORE REOCCUPYING. DO NOT ALLOW CHILDREN OR PETS TO CONTACT TREATED AREAS UNTIL SURFACES ARE DRY.

**SIGNS AND SYMPTOMS
OF OVEREXPOSURE****PRIMARY ROUTE OF ENTRY****Dermal/Eye:** Yes **Oral:** No **Inhalation:** No**ACUTE TOXICITY**

Oral: LD₅₀ (rat): >5,000 mg/kg (highest dose tested)
Dermal: LD₅₀ (rabbit): >2,000 mg/kg (highest dose tested)
Inhalation: LD₅₀ (rat): >4.84 mg/l (highest dose tested)

11. Toxicological Information (continued)

MUTAGENICITY [Specific to Active Ingredient(s)]

(S)-Methoprene is not a mutagenic compound. It has been found negative in the following tests. a) Ames Test (in vitro), b) Chromosomal aberration in CHO cells (in vitro), and c) Dominant lethal assay (invitro test for chromosomal damage) test.

Permethrin was determined to be non-mutagenic in the following studies: Ames Test (in vitro), Chromosomal Aberration, and Host Mediated.

U.S. EPA has evaluated this product's toxicity as part of the U.S. registration process. EPA requires extensive toxicity tests be performed before any pesticide chemical is approved for use. Based on their review of test results, they have determined that no significant risk to users, the public, or the environment exists when this product is used as indicated on the product label.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE (Active Ingredients Only)

Hydrolysis:	Not applicable
Photolysis:	Not applicable
Soil half life:	Not applicable
Water solubility:	Not applicable

ECOTOXICITY (Active Ingredients Only)

Acute Toxicity: fish:	This product is not intended for aquatic environments, however, pyrethroids are potentially toxic to aquatic organisms.
Acute Toxicity: aquatic invertebrates:	

13. DISPOSAL CONSIDERATIONS

Wrap container in several layers of newspaper and dispose of in trash. Do not puncture or incinerate. This product is toxic to fish. Do not apply directly to any body of water. Do not contaminate water when disposing of equipment washwaters.

14. TRANSPORT INFORMATION

DOT49CFR Description:	Consumer Commodity, ORM-D
Freight Classification:	Insecticides, O/T Poison N.O.S., NMFC I - 102120

15. REGULATORY INFORMATION

CERCLA (Superfund):	Not regulated by CERCLA
RCRA:	Regulated due to ignitability

SARA 311/312 HAZARD CATEGORIES

Immediate Health:	Yes (irritation)
Delayed Health:	No
Fire:	Yes
Sudden Pressure:	Yes
Reactivity:	No

The information presented herein, while not guaranteed, was prepared by technically knowledgeable personnel and to the best of our knowledge is true and accurate. It is not intended to be all inclusive and the manner and conditions of use and handling may involve other or additional considerations.

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8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits:	Propane: 1000 ppm (OSHA TWA), simple asphyxiant (ACGIH)
Ventilation:	Use in a well ventilated area.
Personal Protective Equipment:	If excessive exposure is anticipated, handlers should wear a MSHA/NIOSH approved organic vapor/pesticide respirator, impervious gloves, goggles, and other appropriate clothing to avoid skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Turbid to opaque, almost colorless emulsion
Boiling Point:	Not applicable
Melting Point:	Not applicable
Vapor Pressure (mm Hg):	Not applicable
Vapor Density (Air = 1):	Not applicable
Specific Gravity:	0.95 at 20°F (4°C) (propellant-free concentrate) 0.82 at 20°F (4°C) (end-use aerosol)
Bulk Density:	Not applicable
Solubility:	Not applicable
Evaporation Rate:	Not applicable
pH:	7.89 (propellant-free concentrate)

10. STABILITY AND REACTIVITY

Stability:	Stable
Reactivity:	Non-reactive
Incompatibility with Other Materials:	Strong oxidizers
Decomposition Products:	None except oxides of carbon
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

CHRONIC TOXICITY [Specific to Active Ingredient(s)]

(S)-Methoprene is not considered as an oncogenic compound. No evidence of compound related gross or histopathic lesions, organ weight variations or tumorigenic effects were observed at dietary levels up to and including 5,000 ppm (HDT-highest dose tested) in a 2-year chronic toxicity/oncogenic study in rats.

Permethrin showed no evidence of oncogenicity. A NOEL of 100 mg/kg was based on decreased body weight gain in the oncogenicity study.

DEVELOPMENTAL/REPRODUCTIVE TOXICITY [Specific to Active Ingredient(s)]

(S)-Methoprene did not affect the reproductive performance of rats when tested at levels up to 2,500 ppm over a period of 3 generations. The NOEL for reproductive toxicity in rats was 500 ppm. In rabbits, no teratogenic effects were observed at levels up to 2,000 mg/kg/day, the maximum tolerated dose for maternal toxicity.

No evidence of developmental or reproductive effects. The NOEL was determined to be 180 mg/kg.

3. Hazard Information (continued)

OTHER TOXICOLOGICAL INFORMATION

Skin Irritation:	mild irritant
Eye Irritation:	mild irritant
Sensitizer:	not a sensitizer

4. FIRST AID MEASURES

Eye:	Flush with plenty of water. Contact a physician if irritation persists.
Skin:	Wash affected area immediately with soap and water. Get medical attention if irritation persists.
Ingestion:	Get medical attention.
Inhalation:	Remove affected person to fresh air. Apply artificial respiration if indicated.

5. FIRE FIGHTING MEASURES

NFPA Rating:	<u>Health:</u> 2 <u>Fire:</u> 4 <u>Reactivity:</u> 0
Flammability Class:	Level 1 aerosol
Flash Point:	Negative - no flash at less than 90°C (propellant-free concentrate)
Explosive Limits (% of Volume):	LEL: 1.8, UEL: 9.5; (propellant-free concentrate)
Extinguishing Media:	Water, CO ₂ , dry chemical or foam
Special Protective Equipment:	Firefighters should wear full protective clothing including self-contained breathing apparatus.
Fire Fighting Procedures:	Contents under pressure. Exposure to temperatures above 130°F may cause bursting. Use water to keep fire exposed containers cool. Do not allow run-off water to enter waterways or sewers.
Combustion Products:	Oxides of carbon
Unusual Fire/Explosion Hazards:	Contents under pressure. Do not puncture containers. Exposure to temperatures above 130°F may cause bursting.

6. ACCIDENTAL RELEASE MEASURES

Steps to be Taken:	Absorb spills with an inert material and put in container for disposal.
Absorbents:	Clay granules, sawdust, dirt or equivalent.
Incompatibles:	Strong oxidizers

7. HANDLING AND STORAGE

Handling:	Do not puncture or incinerate container. Remove birds and cover and unplug fish aquariums before spraying. This product is toxic to fish. Do not apply directly to any body of water. Do not contaminate water when disposing of equipment washwaters.
Storage:	Store in a cool, dry area. Do not store near heat or open flame. Exposure to temperatures above 130°F may cause bursting.