

MATERIAL SAFETY DATA SHEET - GENTROL® IGR CONCENTRATE

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

Product Name: Gentrol® IGR Concentrate
Chemical Name/Synonym: (S)-Hydroprene; ethyl (2E,4E,7S) -3,7,11-trimethyl-2,4-dodecadienoate
Chemical Family: Isoprenoid
Formula: C₁₇H₃₀O₂
EPA Registration No.: 2724-351
RF Number: 259

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component (chemical, common name)</u>	<u>CAS Number</u>	<u>Wt%</u>	<u>Exposure Limits</u>
(S)-Hydroprene: Ethyl (2E,4E,7S) -3,7,11-trimethyl-2,4-dodecadienoate	65733 -18-8	11.6%	Not established
Mineral Oil, Petroleum distillates solvent-refined (mild) light paraffinic	64742-47-8		Not established
Methanol	67-56-1		200 ppm (OSHA & ACGIH)

3. HAZARD INFORMATION**PRECAUTIONARY STATEMENT**

WARNING: AVOID CONTACT WITH EYES, SKIN, OR CLOTHING. CAUSES SKIN IRRITATION. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING. AVOID DIRECT CONTAMINATION OF FOOD, FOODSTUFFS, OR WATER SUPPLY.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Intoxification not reported. probable symptoms of overexposure would be nausea, diarrhea, vomiting, G.I. tract irritation.

PRIMARY ROUTE OF ENTRY

Dermal/Eye: Yes **Oral:** Yes **Inhalation:** No

ACUTE TOXICITY

Oral: LD₅₀ (rat): >5,100 mg/kg b.w. (highest dose level tested)
Dermal: LD₅₀ (rabbit): >2,100 mg/kg b.w. (highest dose level tested)
Inhalation: LC₅₀ (rat): >7.3 mg/L (highest dose level tested)

OTHER TOXICOLOGICAL INFORMATION

Skin Irritation: Moderate (rabbit)
Eye Irritation: Minimal (rabbit)
Sensitizer: Not considered a sensitizer (guinea pig)

4. FIRST AID MEASURES

Eye:	Flush with gently flowing water. If irritation persists see a physician.
Skin:	Wash thoroughly with soap and water. If irritation occurs, see a physician.
Ingestion:	Do not induce vomiting. Call a physician or poison control center immediately.
Inhalation:	Remove to fresh air and get medical attention if needed.
Note to Physician:	Treat symptomatically

5. FIRE FIGHTING MEASURES

NFPA Rating:	Health: 2 Fire: 2 Reactivity: 0
Flammability Class:	Combustible liquid
Flash Point:	132°F
Explosive Limits (% of Volume):	Not known
Extinguishing Media:	C O ₂ , foam, water fog
Special Protective Equipment	Firefighters should wear protective clothing and self-contained breathing apparatus.
Fire Fighting Procedures:	Normal procedures. Do not allow fire fighting water to escape into waterways or sewers.
Combustion Products:	Oxides of carbon and oxides of sulfur
Unusual Fire/Explosion Hazards:	Not known

6. ACCIDENTAL RELEASE MEASURES

Steps to be Taken:	Absorb spill with inert material and place in a container for disposal.
Absorbents:	Clay granules, sawdust, dirt or equivalent
incompatibles:	Strong oxidizers

7. HANDLING STORAGE

Handling:	Avoid inhalation of vapors and contact with skin, eyes and clothing. Wash hands, arms and face thoroughly with soap and water after handling product.
Storage	Keep away from high temperatures/ignition sources.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits:	Methanol = 200 ppm (OSHA PEL & ACGIH TLV)
Ventilation:	Use with adequate ventilation
Personal Protective Equipment:	If prolonged exposure is anticipated, handlers should wear a MSHA/NIOSH approved organic vapor pesticide respirator, impervious gloves, goggles and other protective clothing to avoid skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor:	Straw colored liquid with mild petroleum solvent odor
Boiling Point:	Not known
Melting Point:	Not applicable
Vapor Pressure (mm Hg):	Not known
Vapor Density (Air = 1):	Not known
Specific Gravity:	0.85
Bulk Density:	7.1 lbs/gal
Solubility:	Emulsifies in water
Evaporation Rate:	Not known
pH:	Not known

10. STABILITY AND REACTIVITY

Stability:	Stable
Reactivity:	Non-reactive
Incompatibility with Other Materials:	Strong oxidizers
Decomposition Products:	Carbon oxides, sulfur oxides
Hazardous Polymerization:	Will not occur

11. TOXICOLOGICAL INFORMATION

CHRONIC TOXICITY [Specific to Active Ingredient(s)]

In a 90-day subchronic feeding study in rats, the NOEL was 50 mg/kg/day. Changes in body weight and organ weights were observed at higher dose levels. Maximum tolerated dose (MTD) was suggested to be between 250 and 1,000 mg/kg/day.

No immunotoxic effects were observed in a study in mice when (S)-Hydroprene was fed (diet) at dose levels up to and including 1,200 mg/kg/day, continuously for 30 days.

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

Parental reproductive performance in rats remained unaffected up to a dose level of 7,500 ppm, when evaluated in a 2-generation reproduction/toxicity study. Histologically, all females of 7,500 ppm dose group had cytoplasmic vacuolation in the ovaries and regression of corpora lutea, but without affecting reproductive performance. The NOEL for pup development was 1,500 ppm.

No teratogenic or fetotoxic effects were observed in rats when pregnant animals were exposed (gavage) to (S)-Hydroprene at levels up to 1,000 mg/kg/day (highest dose tested) during days 6 to 15 of gestation. NOEL for maternal toxicity was 1,000 mg/kg/day. Minor skeletal anomalies observed at lower dose levels were absent in the high dose animals, indicating an observation unrelated to the dose treatment.

MUTAGENICITY [Specific to Active Ingredient(s)]

(S)-Hydroprene has been found negative for mutagenicity potential. It has tested negative in: 1) Ames Test, 2) *in vivo* cytogenetic assay, 3) micronucleus test (*in vivo*) and in 4) test for DNA effects - UDS in rats (*in vitro*).

U.S. EPA has evaluated other similar product's toxicity as part of the U.S. registration process. EPA requires extensive toxicity tests be performed before any 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

Hydrolysis:	Not available
Photolysis:	Not available
Soil half life:	Not available
Water solubility:	<2 ppm, emulsifies in water

ECOTOXICITY (Active Ingredients Only)

Acute Toxicity fish:	Not available
Acute Toxicity aquatic invertebrates:	Not available

13. DISPOSAL CONSIDERATIONS

Entire contents and rinsate must be used according to label directions. Empty containers maybe laced in trash. Larger quantities, as waste material, may be classified as a RCRA hazardous waste. Recommended disposal is by an approved hazardous waste management facility.

14. TRANSPORTATION INFORMATION

DOT49CFR Description:	Not regulated via highway or rail when in containers < 119 gallons per container. Classify as flammable via air.
Freight Classification:	insecticides other than poison, N.O.I. NMFC # 102120

15. REGULATORY INFORMATION

CERCLA (Superfund):	Not regulated as hazardous
RCRA:	Regulated as a hazardous waste due to ignitability

SARA 311/312 HAZARD CATEGORIES

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