

Syngenta Crop Protection, Inc.
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **CALLISTO** Product No.: A12738A
 EPA Signal Word: Caution
 Active Ingredient(%): Mesotrione (40.0%) CAS No.: 104206-82-8
 Chemical Name: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione
 Chemical Class: Benzoylcyclohexanedione Herbicide
 EPA Registration Number(s): 100-1131 Section(s) Revised: 2, 3, 5, 7, 10, 15

2. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Ethylene Glycol (<= 14%)	Not Established	100 mg/m ³ (ceiling) [aerosol]	Not Established	No
Mesotrione (40.0%)	Not Established	Not Established	10 mg/m ³ TWA***	No

*** Syngenta Occupational Exposure Limit (OEL)

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
 Syngenta Hazard Category: B, S

3. HAZARDS IDENTIFICATION

Symptoms of Acute Exposure

May cause mild eye and skin irritation. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Hazardous Decomposition Products

Can decompose at high temperatures forming toxic gases.

Physical Properties

Appearance: Beige to tan liquid

Odor: Faint; pleasant

Unusual Fire, Explosion and Reactivity Hazards

Flammable hydrogen gas may be formed on contact with incompatible metals. See "Conditions to Avoid", Section 10.
 Can decompose at high temperatures forming toxic gases.

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison control center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

- Eye Contact: If in eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after 5 minutes, then continue rinsing eye. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Skin Contact: If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call Syngenta (800-888-8372), a poison control center or doctor for treatment advice.
- Inhalation: If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call Syngenta (800-888-8372), a poison control center or doctor for further treatment advice.

Notes to Physician

There is no specific antidote if this product is ingested.

Treat symptomatically.

Medical Condition Likely to be Aggravated by Exposure

None known.

5. FIRE FIGHTING MEASURES

Fire and Explosion

- Flash Point (Test Method): > 200°F
- Flammable Limits (% in Air): Lower: % Not Applicable Upper: % Not Applicable
- Autoignition Temperature: Not Available
- Flammability: Can burn in fire, releasing toxic vapors.

Unusual Fire, Explosion and Reactivity Hazards

Flammable hydrogen gas may be formed on contact with incompatible metals. See "Conditions to Avoid", Section 10.
Can decompose at high temperatures forming toxic gases.

In Case of Fire

Use dry chemical, foam or CO2 extinguishing media. Wear full protective clothing and self-contained breathing apparatus. Evacuate nonessential personnel from the area to prevent human exposure to fire, smoke, fumes or products of combustion. Prevent use of contaminated buildings, area, and equipment until decontaminated. Water runoff can cause environmental damage. If water is used to fight fire, dike and collect runoff.

6. ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Control the spill at its source. Contain the spill to prevent from spreading or contaminating soil or from entering sewage and drainage systems or any body of water. Clean up spills immediately, observing precautions outlined in Section 8. Cover entire spill with absorbing material and place into compatible disposal container. Scrub area with hard water detergent (e.g. commercial products such as Tide, Joy, Spic and Span). Pick up wash liquid with additional absorbent and place into compatible disposal container. Once all material is cleaned up and placed in a disposal container, seal container and arrange for disposition.

7. HANDLING AND STORAGE

Spray solutions of this product should be mixed, stored and applied using only plastic, plastic-lined steel, stainless steel or fiberglass containers. Concentrate should not be stored in mild steel, cast iron or aluminum containers.

Store the material in a well-ventilated, secure area out of reach of children and domestic animals. Do not store food, beverages or tobacco products in the storage area. Prevent eating, drinking, tobacco use, and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION, PACKAGING AND USE OF THIS PRODUCT.

FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

- Ingestion: Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Wash thoroughly with soap and water after handling.

Eye Contact:	Where eye contact is likely, use chemical splash goggles.
Skin Contact:	Where contact is likely, wear chemical-resistant (such as nitrile or butyl) gloves, coveralls, socks and chemical-resistant footwear. For overhead exposure, wear chemical-resistant headgear.
Inhalation:	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below exposure limits. A NIOSH-certified combination air-purifying respirator with an N, P or R 95 or HE class filter and an organic vapor cartridge may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air-purifying respirators is limited. Use a pressure demand atmosphere-supplying respirator if there is any potential for uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection. Keep face away from container during opening and pouring to prevent inhalation of head space gases.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Beige to tan liquid
Odor:	Faint; pleasant
Melting Point:	Not Available
Boiling Point:	Not Available
Specific Gravity/Density:	1.20 g/ml
pH:	2.4 - 2.8 @ 68°F (20°C)

Solubility in H₂O

Mesotrione : 160 mg/l @ 68°F (20°C) (99.7% pure)

Vapor Pressure

Mesotrione : < 4.3 x 10⁻⁸ mmHg @ 68°F (20°C)

10. STABILITY AND REACTIVITY

Stability:	Stable under normal use and storage conditions.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	Concentrate should not be stored in mild steel, cast iron or aluminum containers. Spray solutions should not be mixed, stored or applied in containers other than plastic, plastic-lined steel, stainless steel or fiberglass.
Materials to Avoid:	See "Conditions to Avoid", Section 10.
Hazardous Decomposition Products:	Can decompose at high temperatures forming toxic gases.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity/Irritation Studies (Finished Product)

Ingestion:	<u>Practically Non-Toxic</u>	
	Oral (LD50 Rat) :	> 5,000 mg/kg body weight
Dermal:	<u>Practically Non-Toxic</u>	
	Dermal (LD50 Rat) :	> 5,000 mg/kg body weight
Inhalation:	<u>Practically Non-Toxic</u>	
	Inhalation (LC50 Rat) :	> 5.19 mg/l air - 4 hours
Eye Contact:	Mildly Irritating (Rabbit)	
Skin Contact:	Slightly Irritating (Rabbit)	
Skin Sensitization:	Not a Sensitizer (Guinea Pig)	

Reproductive/Developmental Effects

Mesotrione : Not mutagenic. Not a reproductive hazard.

Chronic/Subchronic Toxicity Studies

Mesotrione : Animal studies showed evidence of reduced bodyweight gain, increased liver and kidney weights, blood effects (polycythemia, reduced white blood cell count) and eye effects (cataract)

formation, keratitis).
No known neurotoxic effects based on animal studies.

Carcinogenicity

Mesotrione : Not carcinogenic in animal studies.

Other Toxicity Information

None

Toxicity of Other Components

Ethylene Glycol (<= 14%)

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice. Exposure to high concentrations of mists or aerosols may result in effects on the hematopoietic system and central nervous system with headache, dizziness and drowsiness. Severe kidney damage results from swallowing large amounts of ethylene glycol.

Target Organs

Active Ingredients

Mesotrione : Eye

Inert Ingredients

Ethylene Glycol: Blood, kidney, CNS

12. ECOLOGICAL INFORMATION

Summary of Effects

Mesotrione :

Unlikely to be hazardous to aquatic life.

Eco-Acute Toxicity

Mesotrione : Rainbow Trout 96-hour LC50 >120 mg/l
Bluegill Sunfish 96-hour LC50 >120 mg/l
Green Algae 72-hour ErC50 13 mg/l
Daphnia magna 48-hour EC50 900 mg/l
Green Algae 72-hour EbC50 4.5 mg/l
This data is for the technical dry material.

Eco-Chronic Toxicity

Mesotrione : Not Available

Environmental Fate

Mesotrione :

The information presented here is for the active ingredient mesotrione.
Not persistent in soil. Stable in water. Moderate mobility in soil. Sinks in water (after 24 h).

13. DISPOSAL CONSIDERATIONS

Disposal

Do not reuse product containers. Dispose of product containers, waste containers, and residues according to local, state, and federal health and environmental regulations.

Characteristic Waste: Not Applicable

Listed Waste: Not Applicable

14. TRANSPORT INFORMATION

DOT Classification

Not regulated.

B/L Freight Classification

Herbicides, NOIBN

Comments

None.

15. REGULATORY INFORMATION

EPCRA SARA Title III Classification

Section 311/312 Hazard Classes: Acute Health Hazard
Chronic Health Hazard

Section 313 Toxic Chemicals: Ethylene Glycol (<= 14%) (CAS No. 107-21-1)

California Proposition 65

Not Applicable

CERCLA/SARA 302 Reportable Quantity (RQ)

Report product spills > 3,260 gal. (based on ethylene glycol [RQ = 5,000 lbs.] content in the formulation)

RCRA Hazardous Waste Classification (40 CFR 261)

Not Applicable

TSCA Status

Exempt from TSCA, subject to FIFRA

16. OTHER INFORMATION

NFPA Hazard Ratings

Health: 2
Flammability: 1
Instability: 0

HMIS Hazard Ratings

Health: 1
Flammability: 1
Reactivity: 0

0	Minimal
1	Slight
2	Moderate
3	Serious
4	Extreme

For non-emergency questions about this product call:

1-800-334-9481

Original Issued Date: 11/26/2000

Revision Date: 06/14/2004

Replaces: 04/22/2003

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein.

RSVP# : SCP-955-00293E

End of MSDS