SAFETY DATA SHEET
.gamma.-Oryzanol

according to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1. Identification of the Substance/Mixture and of the Company/Undertaking

1.1 **Product Code:** 21436

Product Name: .gamma.-Oryzanol

Synonyms: Gammariza; Gamma-orizanol;

1.2 **Relevant identified uses of the substance or mixture and uses advised against:**

Relevant identified uses: For research use only, not for human or veterinary use.

1.3 **Details of the Supplier of the Safety Data Sheet:**

Company Name: Cayman Chemical Company
1180 E. Ellsworth Rd.
Ann Arbor, MI 48108

Web site address: www.caymanchem.com

Information: Cayman Chemical Company   +1 (734)971-3335

1.4 **Emergency telephone number:**

Emergency Contact: CHEMTREC Within USA and Canada: +1 (800)424-9300

CHEMTREC Outside USA and Canada: +1 (703)527-3887

Section 2. Hazards Identification

2.1 **Classification of the Substance or Mixture:**

Acute Toxicity: Skin, Category 2

2.2 **Label Elements:**

GHS Signal Word: **Danger**

GHS Hazard Phrases:

H310: Fatal in contact with skin.

GHS Precaution Phrases:

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash {hands} thoroughly after handling.

P280: Wear {protective gloves/protective clothing/eye protection/face protection}.

GHS Response Phrases:

P302+352: IF ON SKIN: Wash with plenty of soap and water.

P310: Immediately call a POISON CENTER or doctor/physician.

P321: Specific treatment {see ... on this label}.

P361+364: Take off immediately all contaminated clothing and wash it before reuse.

GHS Storage and Disposal Phrases:

Please refer to Section 7 for Storage and Section 13 for Disposal information.

2.3 **Adverse Human Health Effects and Symptoms:** Fatal in contact with skin.

Material may be irritating to the mucous membranes and upper respiratory tract.

May be harmful by inhalation or ingestion.

May cause eye, skin, or respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

Multi-region format

Section 3. Composition/Information on Ingredients

CAS # / RTECS #	Hazardous Components (Chemical Name)/ REACH Registration No.	Concentration	EC No./ EC Index No.	GHS Classification
11042-64-1 RN0050000	Orizanol	100.0 %	600-960-6 NA	Acute Tox.(D) 2: H310

Section 4. First Aid Measures

4.1 Description of First Aid Measures:

In Case of Inhalation: Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

In Case of Skin Contact: Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

In Case of Eye Contact: Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

In Case of Ingestion: Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

Section 5. Fire Fighting Measures

5.1 Suitable Extinguishing Media: Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.

Unsuitable Extinguishing Media: A solid water stream may be inefficient.

5.2 Flammable Properties and Hazards: No data available.

No data available.

Flash Pt: No data.

Explosive Limits: LEL: No data. UEL: No data.

Autoignition Pt: No data.

5.3 Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.

Section 6. Accidental Release Measures

6.1 Protective Precautions, Protective Equipment and Emergency Procedures: Avoid raising and breathing dust, and provide adequate ventilation. As conditions warrant, wear a NIOSH approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

6.2 Environmental Precautions: Take steps to avoid release into the environment, if safe to do so.

6.3 Methods and Material For Containment and Cleaning Up: Contain spill and collect, as appropriate. Transfer to a chemical waste container for disposal in accordance with local regulations.

Section 7. Handling and Storage

7.1 Precautions To Be Taken in Handling: Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.

7.2 Precautions To Be Taken in Storing: Keep container tightly closed. Store in accordance with information listed on the product insert.

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Section 8. Exposure Controls/Personal Protection

8.1   **Exposure Parameters:**

8.2   **Exposure Controls:**

8.2.1 **Engineering Controls (Ventilation etc.):**   Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

8.2.2 **Personal protection equipment:**

Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Respiratory Equipment (Specify Type):	NIOSH approved respirator, as conditions warrant.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling. No data available.

Section 9. Physical and Chemical Properties

9.1   **Information on Basic Physical and Chemical Properties**

Physical States:	[ ] Gas [ ] Liquid [X] Solid
Appearance and Odor:	A solid
pH:	No data.
Melting Point:	No data.
Boiling Point:	No data.
Flash Pt:	No data.
Evaporation Rate:	No data.
Flammability (solid, gas):	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Solubility in Water:	No data.
Solubility Notes:	Soluble in: acetone; heptane; ether; chloroform; benzene; EtOH (slightly);
Octanol/Water Partition Coefficient:	No data.
Autoignition Pt:	No data.
Decomposition Temperature:	No data.
Viscosity:	No data.

9.2   **Other Information**

Percent Volatile:	No data.
Molecular Formula & Weight:	$C_{40}H_{58}O_4$ 602.9

Section 10. Stability and Reactivity

10.1	**Reactivity:**	No data available.
10.2	**Stability:**	Unstable [ ] Stable [X]
10.3	**Stability Note(s):**	Stable if stored in accordance with information listed on the product insert.
	Polymerization:	Will occur [ ] Will not occur [X]
10.4	**Conditions To Avoid:**	No data available.
10.5	**Incompatibility - Materials To Avoid:**	strong oxidizing agents
10.6	**Hazardous Decomposition or Byproducts:**	carbon dioxide carbon monoxide

Section 11. Toxicological Information

11.1 **Information on Toxicological Effects:**

The toxicological effects of this product have not been thoroughly studied.

.gamma.-Oryzanol - Toxicity Data: Oral LD50 (rat): >25 gm/kg; Administration onto the skin LD50 (rat): 100 mg/kg; Intraperitoneal LDLO (rat): 1250 mg/kg; Subcutaneous LD (rat): >1 gm/kg; Oral LD50 (mouse): >25 gm/kg; Intraperitoneal LD (mouse): >10 Subcutaneous LD (mouse): >2500 mg/kg;

Chronic Toxicological Effects:

.gamma.-Oryzanol - Investigated as a natural product and reproductive effector.

Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information.

.gamma.-Oryzanol RTECS Number: RN0050000

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
11042-64-1	Orizanol	n.a.	n.a.	n.a.	n.a.

Section 12. Ecological Information

12.1	**Toxicity:**	Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.
12.2	**Persistence and Degradability:**	No data available.
12.3	**Bioaccumulative Potential:**	No data available.
12.4	**Mobility in Soil:**	No data available.
12.5	**Results of PBT and vPvB assessment:**	No data available.
12.6	**Other adverse effects:**	No data available.

Section 13. Disposal Considerations

13.1	**Waste Disposal Method:**	Dispose in accordance with local, state, and federal regulations.

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Section 14. Transport Information

14.1   LAND TRANSPORT (US DOT):

DOT Proper Shipping Name:	Toxic solids, organic, n.o.s. (.gamma.-Oryzanol)
DOT Hazard Class:	6.1 POISON

UN/NA Number:	UN2811	**Packing Group:**	II

14.1   LAND TRANSPORT (European ADR/RID):

ADR/RID Shipping Name:	Toxic solids, organic, n.o.s. (.gamma.-Oryzanol)		
UN Number:	2811	**Packing Group:**	II
Hazard Class:	6.1 - POISON		

14.3   AIR TRANSPORT (ICAO/IATA):

ICAO/IATA Shipping Name:	Toxic solids, organic, n.o.s. (.gamma.-Oryzanol)		
UN Number:	2811	**Packing Group:**	II
Hazard Class:	6.1 - POISON	**IATA Classification:**	6.1

Additional Transport Information: Transport in accordance with local, state, and federal regulations.

When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

Section 15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
11042-64-1	Orizanol	No	No	No

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
11042-64-1	Orizanol	CAA HAP,ODC: No; CWA NPDES: No; TSCA: No; CA PROP.65: No

Regulatory Information Statement: This SDS was prepared in accordance with 29 CFR 1910.1200 and Regulation (EC) No.1272/2008.

Section 16. Other Information

Revision Date:	08/23/2017
Additional Information About This Product:	No data available.

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