



# MATERIAL SAFETY DATA SHEET

## Monoacylglycerol Lipase (human recombinant)

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

Revision: 06/14/2011  
Supersedes Revision: 05/02/2006

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

**Product Code:** 10007812

**Product Name:** Monoacylglycerol Lipase (human recombinant)

**Manufacturer Information**

**Company Name:** Cayman Chemical Company

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

**Alternate Emergency Contact:** CHEMTREC Outside USA and Canada: +1 (703)527-3887

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

**Web site address:** www.caymanchem.com

**Synonyms:** MAGL; MGL;

### 2. Hazards Identification

**Emergency Overview:** Avoid contact and inhalation.  
Target Organ(s): eyes, kidneys, respiratory system, and skin.

**Route(s) of Entry:** Inhalation? Yes Skin? Yes Eyes? Yes Ingestion? Yes Other: Injection

**Potential Health Effects (Acute and Chronic):** Material may be irritating to the mucous membranes and upper respiratory tract.  
May be harmful by inhalation, ingestion, or skin absorption.  
May cause eye, skin, or respiratory system irritation.

**Signs and Symptoms Of Exposure:** Prolonged exposure may cause nausea, headache, and vomiting.  
To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

**Medical Conditions Generally Aggravated By Exposure:** No data available.

### 3. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	EC#	Risk Phrases	RTECS #
1. Monoacylglycerol Lipase (human recombinant)	NA	< 1.0 %	NA	No phrases apply.	NA
2. Glycerol	56-81-5	25.0 %	200-289-5	No phrases apply.	MA8050000
3. Triton X100	9002-93-1	0.1 %	NA	R22-41-52/53	YM0683332
4. Magnesium chloride, hexahydrate	7791-18-6	0.1 %	NA	R36/37	OM2975000
5. Sodium chloride	7647-14-5	0.58 %	231-598-3	No phrases apply.	VZ4725000
6. HEPES, free acid	7365-45-9	1.19 %	230-907-9	R43-36/37/38	TL6809000
7. Water	7732-18-5	>72.03 %	231-791-2	No phrases apply.	ZC0110000

### 4. First Aid Measures

**Emergency and First Aid Procedures:**

If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.

If swallowed, 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.

In case of contact with eyes, hold eyelids apart and flush eyes with plenty of water for at least 20 minutes. Have eyes examined and tested by medical personnel.

In case of skin contact, immediately wash skin with soap and plenty of water for at least 20 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

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### 5. Fire Fighting Measures

<b>Flash Pt:</b>	No data.
<b>Explosive Limits:</b>	LEL: No data. UEL: No data.
<b>Autoignition Pt:</b>	No data available.
<b>Fire Fighting Instructions:</b>	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.
<b>Flammable Properties and Hazards:</b>	Emits toxic fumes under fire conditions.
<b>Hazardous Combustion Products:</b>	No data available.
<b>Suitable Extinguishing Media:</b>	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray. Use water spray to cool fire-exposed containers.
<b>Unsuitable Extinguishing Media:</b>	A solid water stream may be inefficient.

### 6. Accidental Release Measures

<b>Steps To Be Taken In Case Material Is Released Or Spilled:</b>	Avoid release into the environment. Avoid breathing vapors 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). Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
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### 7. Handling and Storage

<b>Hazard Label Information:</b>	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling
<b>Precautions To Be Taken in Handling:</b>	Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid prolonged or repeated exposure.
<b>Precautions To Be Taken in Storing:</b>	Keep container tightly closed and store at correct temperature.

### 8. Exposure Controls/Personal Protection

Hazardous Components (Chemical Name)	CAS #	OSHA PEL	ACGIH TLV	Other Limits
1. Monoacylglycerol Lipase (human recombinant)	NA	No data.	No data.	No data.
2. Glycerol	56-81-5	15 (dust); 5 (resp.) mg/m3	10 mg/m3	No data.
3. Triton X100	9002-93-1	No data.	No data.	No data.
4. Magnesium chloride, hexahydrate	7791-18-6	No data.	No data.	No data.
5. Sodium chloride	7647-14-5	No data.	No data.	No data.
6. HEPES, free acid	7365-45-9	No data.	No data.	No data.
7. Water	7732-18-5	No data.	No data.	No data.

<b>Protective Equipment Summary - Hazard Label Information:</b>	Compatible chemical-resistant gloves Eye wash station in work area Lab coat Safety glasses Safety shower in work area Vent Hood
<b>Respiratory Equipment (Specify Type):</b>	NIOSH approved respirator, as conditions warrant.
<b>Eye Protection:</b>	Safety glasses
<b>Protective Gloves:</b>	Compatible chemical-resistant gloves
<b>Other Protective Clothing:</b>	Lab coat
<b>Engineering Controls (Ventilation etc.):</b>	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
<b>Work/Hygienic/Maintenance Practices:</b>	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash and a safety shower. Wash thoroughly after handling.

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**9. Physical and Chemical Properties**

**Physical States:** [ ] Gas [ X ] Liquid [ ] Solid  
**Melting Point:** No data.  
**Boiling Point:** No data.  
**Autoignition Pt:** No data.  
**Flash Pt:** No data.  
**Specific Gravity (Water = 1):** No data.  
**Vapor Pressure (vs. Air or mm Hg):** No data.  
**Vapor Density (vs. Air = 1):** No data.  
**Evaporation Rate:** No data.  
**Solubility in Water:** No data.  
**Percent Volatile:** No data.  
**pH:** 7.2  
**Appearance and Odor:** No data available.

**10. Stability and Reactivity**

**Stability:** Unstable [ ] Stable [ X ]  
**Conditions To Avoid - Instability:** No data available.  
**Incompatibility - Materials To Avoid:** strong bases  
strong oxidizing agents  
**Hazardous Decomposition Or Byproducts:** carbon dioxide  
carbon monoxide  
**Possibility of Hazardous Reactions:** Will occur [ ] Will not occur [ X ]  
**Conditions To Avoid - Hazardous Reactions:** No data available.

**11. Toxicological Information**

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

**Chronic Toxicological Effects:** No data available.

Hazardous Components (Chemical Name)	CAS #	NTP	IARC	ACGIH	OSHA
1. Monoacylglycerol Lipase (human recombinant)	NA	n.a.	n.a.	n.a.	n.a.
2. Glycerol	56-81-5	n.a.	n.a.	n.a.	n.a.
3. Triton X100	9002-93-1	n.a.	n.a.	n.a.	n.a.
4. Magnesium chloride, hexahydrate	7791-18-6	n.a.	n.a.	n.a.	n.a.
5. Sodium chloride	7647-14-5	n.a.	n.a.	n.a.	n.a.
6. HEPES, free acid	7365-45-9	n.a.	n.a.	n.a.	n.a.
7. Water	7732-18-5	n.a.	n.a.	n.a.	n.a.

**12. Ecological Information**

Avoid release into the environment.  
 Runoff from fire control or dilution water may cause pollution.

**13. Disposal Considerations**

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



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### 14. Transport Information

**LAND TRANSPORT (US DOT)**

**DOT Proper Shipping Name** Not dangerous goods.

**LAND TRANSPORT (European ADR/RID)**

**ADR/RID Shipping Name** Not dangerous goods.

**AIR TRANSPORT (ICAO/IATA)**

**ICAO/IATA Shipping Name** Not dangerous goods.

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

### 15. Regulatory Information

**European Community Hazard Symbol codes**

No data available.

**European Community Risk and Safety Phrases**

S24/25 - Avoid contact with skin and eyes.

S37/39 - Wear suitable gloves and eye/face protection.

**US EPA SARA Title III**

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Monoacylglycerol Lipase (human recombinant)	NA	No	No	No	No
2. Glycerol	56-81-5	No	No	No	No
3. Triton X100	9002-93-1	No	No	No	No
4. Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No
5. Sodium chloride	7647-14-5	No	No	No	No
6. HEPES, free acid	7365-45-9	No	No	No	No
7. Water	7732-18-5	No	No	No	No

**Other US EPA or State Lists**

Hazardous Components (Chemical Name)	CAS #	CAA HAP,ODC	CWA NPDES	TSCA	CA PROP.65
1. Monoacylglycerol Lipase (human recombinant)	NA	No	No	No	No
2. Glycerol	56-81-5	No	No	Inventory	No
3. Triton X100	9002-93-1	No	No	Inventory, 8A PAIR	No
4. Magnesium chloride, hexahydrate	7791-18-6	No	No	No	No
5. Sodium chloride	7647-14-5	No	No	Inventory	No
6. HEPES, free acid	7365-45-9	No	No	Inventory	No
7. Water	7732-18-5	No	No	Inventory	No

**Regulatory Information Statement:**

This SDS was prepared in accordance with Regulation (EC) No.1272/2008 and European Directive 67/548/EEC as amended.

### 16. Other Information

**Company Policy or Disclaimer**

For research use only, not for human or veterinary use.

**DISCLAIMER:** This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

**N.A.=Not available, N.P.=Not applicable, N.D.=Not determined, N.E.=Not established, N.R.=Not required**