

MATERIAL SAFETY DATA SHEET
15-Lipoxygenase-2 (human recombinant)

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

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1. Product and Company Identification

Product Code: 10011263
Product Name: 15-Lipoxygenase-2 (human recombinant)
Manufacturer Information
Company Name: Cayman Chemical Company
Emergency Contact: Cayman Chemical Company (800)364-9897
Information: Cayman Chemical Company (734)971-3335

2. Composition/Information on Ingredients

Hazardous Components (Chemical Name)	CAS #	Concentration	OSHA PEL	ACGIH TWA	Other Limits
1. Glycerol	56-81-5	20.0 %	No data.	10 mg/m3	No data.
2. Water	7732-18-5	78.0 %	No data.	No data.	No data.
3. Potassium chloride	7447-40-7	0.02 %	No data.	No data.	No data.
4. 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)	3483-12-3	0.02 %	No data.	No data.	No data.
5. Sodium chloride	7647-14-5	0.8 %	No data.	No data.	No data.
6. Potassium phosphate, Monobasic	7778-77-0	0.02 %	No data.	No data.	No data.
7. Sodium phosphate	7758-79-4	0.14 %	No data.	No data.	No data.
8. 15-Lipoxygenase-2 (human recombinant)	NA	< 1.0 %	No data.	No data.	No data.

Hazardous Components (Chemical Name)	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
1. Glycerol	MA8050000	No data.	No data.	No data.	No data.
2. Water	ZC0110000	No data.	No data.	No data.	No data.
3. Potassium chloride	TS8050000	No data.	No data.	No data.	No data.
4. 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)	EK1610000	No data.	No data.	No data.	0.29 mg/m3
5. Sodium chloride	VZ4725000	No data.	No data.	No data.	No data.
6. Potassium phosphate, Monobasic	TC6615500	No data.	No data.	No data.	No data.
7. Sodium phosphate	NA	No data.	No data.	No data.	No data.
8. 15-Lipoxygenase-2 (human recombinant)	NA	No data.	No data.	No data.	No data.

3. Hazards Identification

Emergency Overview: No data available.
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.
The toxicological properties of this compound have not been fully evaluated.
LD 50 / LC 50: Please refer to Section 11.
Signs and Symptoms Of Exposure: Prolonged exposure can cause: Nausea, headache, and vomiting.

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. After initial flushings, remove any contact lenses and continue flushing 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. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.

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5. Fire Fighting Measures

Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Fire Fighting Instructions:	As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent), and full protective gear to prevent contact with skin and eyes.
Flammable Properties and Hazards:	Emits toxic fumes under fire conditions.
Extinguishing Media:	Use alcohol-resistant foam, carbon dioxide, water, or dry chemical spray when fighting fires involving this material.
Unsuitable Extinguishing Media:	No data available.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	Wear a NIOSH/MSHA approved self-contained breathing apparatus 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. After removal, ventilate contaminated area and flush thoroughly with water.
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7. Handling and Storage

Hazard Label Information:	Avoid contact with skin and eyes. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Handling:	Avoid breathing (dust, vapor, mist, gas). Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Do not reuse this container. Use with adequate ventilation. Wash thoroughly after handling.
Precautions To Be Taken in Storing:	Store at correct temperature.

8. Exposure Controls/Personal Protection

Protective Equipment Summary - Hazard Label Information:	Eye wash station in work area Lab coat Compatible chemical-resistant gloves Safety glasses Safety shower in work area Vent Hood
Respiratory Equipment (Specify Type):	No data available.
Eye Protection:	Safety glasses
Protective Gloves:	Compatible chemical-resistant gloves
Other Protective Clothing:	Lab coat
Engineering Controls (Ventilation etc.):	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Work/Hygienic/Maintenance Practices:	Do not take internally. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Melting Point:	No data.
Boiling Point:	No data.
Autoignition Pt:	No data.
Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.

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Evaporation Rate (vs Butyl Acetate=1): No data.
Solubility in Water: No data.
Percent Volatile: No data.
Heat Value: No data.
Particle Size: No data.
Corrosion Rate: No data.
pH: No data.
Appearance and Odor: A clear, colorless solution

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
Hazardous Polymerization: Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Polymerization: No data available.

11. Toxicological Information

Chronic Toxicological Effects: The toxicological effects of this compound have not been thoroughly studied.

Glycerol - Toxicity Data: Oral LD50 (mouse): 4090 mg/kg Irritation Data: Eyes (rabbit): 500 mg/24hr mild Skin (rabbit) 500 mg/24hr mild	Glycerol - Target Organ Data: Effects on fertility (male fertility index) Effects on fertility (post-implantation mortality) Paternal effects (spermatogenesis) Paternal effects (testes, epididymis, sperm duct)
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Glycerol - Investigated as a mutagen 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.
 Glycerol RTECS Number: MA8050000

Carcinogenicity/Other Information: No data available.
Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

12. Ecological Information

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.

14. Transport Information

LAND TRANSPORT (US DOT)
DOT Proper Shipping Name: This substance is considered non-hazardous for transport.
Additional Transport Information: Transport in accordance with local, state, and federal regulations.

15. Regulatory Information

US EPA SARA Title III

Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
1. Glycerol	56-81-5	No	No	No	No
2. Water	7732-18-5	No	No	No	No
3. Potassium chloride	7447-40-7	No	No	No	No
4. 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)	3483-12-3	No	No	No	No

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Hazardous Components (Chemical Name)	CAS #	Sec.302 (EHS)	Sec.304 RQ	Sec.313 (TRI)	Sec.110
5. Sodium chloride	7647-14-5	No	No	No	No
6. Potassium phosphate, Monobasic	7778-77-0	No	No	No	No
7. Sodium phosphate	7758-79-4	No	No	No	No
8. 15-Lipoxygenase-2 (human recombinant)	NA	No	No	No	No

US EPA CAA, CWA, TSCA

Hazardous Components (Chemical Name)	CAS #	EPA CAA	EPA CWA NPDES	EPA TSCA	CA PROP 65
1. Glycerol	56-81-5	HAP, ODC ()	No	Inventory	No
2. Water	7732-18-5	HAP, ODC ()	No	Inventory	No
3. Potassium chloride	7447-40-7	HAP, ODC ()	No	Inventory	No
4. 2,3-Butanediol, 1,4-dimercapto-, (2R,3R)	3483-12-3	HAP, ODC ()	No	Inventory	No
5. Sodium chloride	7647-14-5	HAP, ODC ()	No	Inventory	No
6. Potassium phosphate, Monobasic	7778-77-0	HAP, ODC ()	No	Inventory	No
7. Sodium phosphate	7758-79-4	HAP, ODC ()	No	No	No
8. 15-Lipoxygenase-2 (human recombinant)	NA	HAP, ODC ()	No	No	No

16. Other Information

Company Policy or Disclaimer

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

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