

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier Lithium Ricinoleate, 50%
Synonyms: Lithium Ricinoleate, Ricinoleic Acid, monolithium salt, (Z)-(+)-, Ricinoleic Acid
Chemical Abstracts Registry No: MIXTURE

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

catalyst

1.3. Details of the supplier of the safety data sheet

Vertellus LLC
201 North Illinois Street, Suite 1800
Indianapolis, Indiana 46204 USA
1-336-292-1781

e-mail Address: sds@vertellus.com

1.4. Emergency telephone number **Vertellus:** 1-336-292-1781
CHEMTREC (USA): +1-800-424-9300 (collect calls accepted)
CHEMTREC (International): +1-703-527-3887 (collect calls accepted)
NRCC (China): +86 532 83889090

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture (According to Regulation (EC) No 1272/2008, 29 CFR 1910.1200 and the Globally Harmonized System)

Non-Hazardous

2.2. Label elements

Signal Word: Not required.

Hazard Precautions: Non-Hazardous

Prevention Precautionary Statements: Note: These precautionary statements are not prescribed by directive 1272/2008 as this product is not classified as hazardous under this directive. Wash hands thoroughly after handling with soap and water. Wear protective gloves, protective clothing, eye protection and face protection. If swallowed, in eyes, on skin or inhaled call a poison center or doctor/physician if you feel unwell. If inhaled, remove victim to fresh air and keep at rest in a comfortable position for breathing. Take off contaminated clothing before reuse. Store in a well-ventilated place. Keep container tightly closed.

Storage Precautionary Statements: Not required.

Disposal Precautionary Statements: Not required.

2.3. Other hazards

Other Hazards: Not applicable.

SECTION 3: Composition/information on ingredients

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3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (weight %)	EC Number	CLP Inventory/ Annex VI	EU CLP Classification (1272/2008)
Water	7732-18-5	47 - 53	231-791-2	Not listed.	Not applicable.
9-Octadecanoic acid, 12-hydroxy-, lithium salt(1:1), (9Z,12R)-	15467-06-8	41 - 50	239-481-9	Not listed.	Not applicable.
Castor oil, fatty acid	61789-44-4	100 3 - 6	263-060-9	Not Listed	Not applicable.

NOTE: See Section 8 for exposure limit data for these ingredients. See Section 15 for trade secret information (where applicable).

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact:	Wash thoroughly after skin contact. Get medical attention if irritation develops or persists.
Eye Contact:	Rinse eyes immediately with large amounts of water for at least 15 minutes, occasionally lifting the eyelids. Seek medical advice if symptoms persist.
Inhalation:	Remove from exposure. If not breathing, give artificial respiration and call a physician.
Ingestion:	If swallowed, do not induce vomiting. Get prompt medical attention. Do not give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed

Acute:	Single exposure to inhaling vapors or mist is not likely to be hazardous. Prolonged or repeated skin contact may cause skin irritation in some individuals. Not likely to be toxic by ingestion. Single dose oral toxicity is low.
Delayed Effects:	None known.

4.3. Indication of any immediate medical attention and special treatment needed

Note to Physician:	No specific indications. Treatment should be based on the judgment of the physician in response to the reactions of the patient.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media:	Carbon dioxide, Dry chemical, Alcohol foam, Water spray
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5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion:	Carbon dioxide, Carbon monoxide
Potential for Dust Explosion:	Not applicable.
Special Flammability Hazards:	None expected

5.3. Advice for firefighters

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Basic Fire Fighting Guidance: Evacuate area and fight fire from a safe distance.
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuation Procedures: Isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Special Instructions: See Section 8 for personal protective equipment recommendations. Remove all contaminated clothing to prevent further absorption. Decontaminate affected personnel using the first aid procedures in Section 4. Leather shoes that have been saturated must be discarded.

6.2. Environmental precautions

Prevent releases to soils, drains, sewers and waterways.

6.3. Methods and material for containment and cleaning up

Do not allow the spilled product to enter public drainage system or open waterways. Remove all ignition sources. Ventilate the area of spill or leak. Contain spilled liquid with sand or vermiculite and place in chemical waste container. Prevent runoff from entering drains, sewers, and streams.

6.4. Reference to other sections

Refer to section 8 for information on selecting personal protective equipment. Refer to section 13 for information on spilled product, absorbent and clean up material disposal instructions.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for Unique Hazards: Not applicable.

Practices to Minimize Risk: Wear appropriate protective equipment when performing maintenance on contaminated equipment. Wash hands thoroughly before eating or smoking after handling this material. Do not eat, drink or smoke in work areas. Prevent contact with incompatible materials. Avoid spills and keep away from drains. Handle in a manner to prevent generation of aerosols, vapors or dust clouds.

Special Handling Equipment: Not applicable.

7.2. Conditions for safe storage, including any incompatibilities

Storage Precautions & Recommendations: This product should be stored at ambient temperature in a dry, well-ventilated location. Keep container closed when not in use. Protect containers against physical damage. Keep away from heat, sparks, and flame.

Dangerous Incompatibility Reactions: Strong oxidizing agents

Incompatibilities with Materials of Construction: None known

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7.3. Specific end use(s)

If a chemical safety assessment has been completed an exposure scenario is attached as an annex to this Safety Data Sheet. Refer to this annex for the specific exposure scenario control parameters for uses identified in subsection 1.2.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Country	Occupational Exposure Limit
Derived No Effect Levels (DNELs) – Workers:	
Route	DNEL
Derived No Effect Levels (DNELs) – General Population:	
Route	DNEL
Predicted No Effect Concentrations (PNECs):	
Route	PNEC

8.2. Exposure controls

Also see the annex to this SDS (if applicable) for specific exposure scenario controls.

Other Engineering Controls:	All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.
Personal Protective Equipment:	PPE: Impervious clothing, gloves, and boots. Chemical goggles; face shields if necessary.
Respirator Caution:	Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.
Thermal Hazards:	Not applicable.
Environmental Exposure Controls:	The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance, State & Odor (ambient temperature):	Off-white waxy paste with a mild odor.		
Molecular Formula:	Not applicable.	Molecular Weight:	Not applicable. 298.46
Vapor Pressure:	No data available.	Evaporation Rate:	< 1 (Butyl Acetate = 1)
Specific Gravity or Density:	0.94 @ 25°C (typical)	Vapor Density (air = 1):	No data available.
Boiling Point:	100 °C	Freezing / Melting Point:	160 - 165 °F
Solubility in Water:	Soluble	Octanol / Water Coefficient:	6.19 (est.)

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pH:	> 7	Odor Threshold:	No data available.
Viscosity:	No data available.	Autoignition Temperature:	No data available.
Flash Point and Method:	350°F (177°C) PMCC	Flammable Limits:	No data available. (LEL) –No data available. (UEL)
Flammability (solid, gas):	No data available.	Decomposition Temperature:	No data available.
Explosive Properties:	Not explosive.	Oxidizing Properties:	Not an oxidizer.

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity	Not classified as dangerously reactive.
10.2. Chemical stability	Stable
10.3. Possibility of hazardous reactions	Will not occur.
10.4. Conditions to avoid	Strong oxidizers.
10.5. Incompatible materials	Strong oxidizing agents
10.6. Hazardous decomposition products	Products of incomplete combustion may include carbon monoxide, carbon dioxide and dense smoke.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD₅₀:	Oral LD ₅₀ (rat) > 90000 mg/kg Oral LD ₅₀ (rat) > 5000 mg/kg
Acute Dermal LD₅₀:	No data available.
Acute Inhalation LC₅₀:	No data available.
Skin Irritation:	Non-irritating to skin.
Eye Irritation:	May cause slight irritation.
Skin Sensitization:	Not sensitizing (Weight of evidence)
Mutagenicity:	No data available.
Reproductive / Developmental Toxicity:	No data available.
Carcinogenicity:	No data available.
Target Organs:	None known
Aspiration Hazard:	Based on physical properties, not likely to be an aspiration hazard.
Primary Route(s) of Exposure:	Skin contact, Eye contact.

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Most important symptoms and effects, both acute and delayed

Single exposure to inhaling vapors or mist is not likely to be hazardous.
Prolonged or repeated skin contact may cause skin irritation in some individuals.
Not likely to be toxic by ingestion. Single dose oral toxicity is low. Delayed Effects: None known.

Additive or Synergistic effects:

None known.

SECTION 12: Ecological information

12.1. Toxicity	No data available.
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 treatment methods

US EPA Waste Number: Non-Hazardous

Waste Classification: (per US regulations) The waste may be classified as "special" or hazardous per State regulations.

Waste Disposal: NOTE: Generator is responsible for proper waste characterization. State hazardous waste regulations may differ substantially from federal regulations. Dispose of this material responsibly, and in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws, and environmental protection duty of care principles. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate classification code according to the European Community List of Wastes should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

The following information applies to all shipping modes (DOT/IATA/ICAO/IMDG/ADR/RID/ADN), unless otherwise indicated:

14.1. UN number	Not applicable	14.2. UN proper shipping name	Chemicals, n.o.s. Lithium Ricinoleate, castor oil fatty acids
14.3. Transport hazard class(es)	Not applicable	14.4. Packing group	Not applicable
14.5. Environmental hazards	Not applicable		
14.6. Special precautions for user	Not applicable.		
NA Emergency Guidebook Numbers:	Not applicable	IMDG EMS:	Not applicable;
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code			Not applicable.

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SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical Inventory Lists:	Status:		
USA TSCA:	Listed	EINECS:	Listed
Canada(DSL/NDSL):	DSL	Japan:	Listed
Korea:	Listed	Australia:	Listed
China:	Listed	Philippines:	Listed
Taiwan:	Listed	New Zealand:	Listed

German Water Hazard Classification: ID Number 4498, hazard class 1 - low hazard to waters (*Lithiumricinoleat*)

SARA 313: Not listed.

Reportable Quantities: None.

HMIS IV:

HEALTH	1
FLAMMABILITY	1
PHYSICAL HAZARD	0

NFPA:



15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

Legend of Abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.

CAS = Chemical Abstracts Service.

CFR = Code of Federal Regulations.

DSL/NDSL = Domestic Substances List/Non-Domestic Substances List.

EC = European Community.

EINECS = European Inventory of Existing Commercial Chemical Substances.

ELINCS = European List of Notified Chemical Substances.

EU = European Union.

GHS = Globally Harmonized System.

LC = Lethal Concentration.

LD = Lethal Dose.

NFPA = National Fire Protection Association.

NIOSH = National Institute of Occupational Safety and Health.

NTP = National Toxicology Program.

OSHA = Occupational Safety and Health Administration

PEL = Permissible Exposure Limit.

RQ = Reportable Quantity.

SARA = Superfund Amendments and Reauthorization Act of 1986.

TLV = Threshold Limit Value.

WHMIS = Workplace Hazardous Materials Information System.

Important Note: Please note that the information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. The information contained herein may change without prior notice. THIS SAFETY DATA SHEET SUPERSEDES ALL PREVIOUS EDITIONS.

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