

SAFETY DATA SHEET

(according to (EC) 1907/2006)

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)-(+)-

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

Manufacturer Information: Vertellus LLC
 201 North Illinois Street, Suite 1800,
 - Indianapolis, IN 46204


Non-Emergency Fax Number: 336-854-4058
E-Mail Address: msds@vertellus.com

Non-Emergency Phone Number: 336-292-1781

1.4. Emergency telephone number

Vertellus: 336-292-1781
 CHEMTREC (USA): (800) 424-9300
 (collect calls accepted); (Int'l): (703) 527-3887
 (collect calls accepted; 011 prefix not needed)

SECTION 2: Hazards identification

HMIS Rating	EC Classification	WHMIS (Canada)	Transportation
<div style="background-color: #0056b3; color: white; padding: 2px; margin-bottom: 2px;">HEALTH 2</div> <div style="background-color: #ff0000; color: white; padding: 2px; margin-bottom: 2px;">FLAMMABILITY 1</div> <div style="background-color: #ffff00; color: black; padding: 2px;">REACTIVITY 0</div>	Not Classified as Hazardous		Not Regulated

2.1. Classification of the substance or mixture

(According to Regulation (EC) No 1272/2008)

Not classified as hazardous under this directive.

Signal Word:

Not required.

Hazard Precautions:

Not classified as hazardous under this directive.

2.2. Label elements

SAFETY DATA SHEET

Prevention Precautions:

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.

First Aid Precautions:

Not required.

Storage Precautions:

Not required.

Disposal Precautions:

Not required.

Single Exposure Target Organs:

Not applicable

Repeated Exposure Target Organs:

Not applicable

(According to Directive 67/548/EEC)

Symbol: Xi
Risk Phrases: R36: Irritating to the eyes.
Safety Phrases: Not classified as hazardous under this directive.

2.3. Other hazards

Signs and Symptoms of Potential Overexposure: Single exposure to 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. Can cause eye irritation, including redness and tearing.

Primary Route(s) of Exposure: Skin contact, Eye contact.

Medical Conditions Aggravated by Exposure: No data found

SECTION 3: Composition/information on ingredients

3.1. Substances or 3.2. Mixtures

Ingredient	CAS Number	Concentration (%)	EINECS / ELINCS	EU Symbol	Risk Phrases
Water	7732-18-5	47 - 53	231-791-2	N/A	N/A
9-Octadecanoic acid, 12-hydroxy-, lithium salt(1:1), (9Z,12R)-	15467-06-8	41 - 50	239-481-9	N/A	N/A
Fatty acids, castor-oil	61789-44-4	3 - 6	263-060-9	Xi	R36

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

SAFETY DATA SHEET

See Section 16 of this MSDS for the full text of the R-phrases above.

SECTION 4: First aid measures

4.1. Description of first aid measures

Skin Contact:	Wash thoroughly after skin contact.
Eye Contact:	Immediately flush the eyes with plenty of water for at least 15 minutes. Call a physician.
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.

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

Acute:	Single exposure to 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. Can cause eye irritation, including redness and tearing.
Delayed Effects:	None known.

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

Thermal Exposure:	Not applicable.
Note to Physician:	No additional first aid information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media:	Carbon dioxide Dry chemical Alcohol foam Water spray
----------------------------------	--

5.2. Special hazards arising from the substance or mixture

Hazardous Products of Combustion:	Carbon dioxide, Carbon monoxide
Potential for Dust Explosion:	not available
Special Flammability Hazards:	Can burn in fire releasing toxic vapors. As in any fire, wear pressure-demand self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.

5.3. Advice for firefighters

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. Frothing can occur if a water stream is used.
Flammability Classification (OSHA):	Combustible Liquid - Class III B

NFPA Rating

1
2 0

SAFETY DATA SHEET



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:	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

Containment Techniques and Clean-up Procedures:	Do not allow the spilled product to enter public drainage system or open waterways. S24/25: Avoid contact with skin and eyes.
Special Reporting Requirements:	Not applicable.

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.
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.
Dangerous Incompatibility Reactions:	Strong oxidizing agents
Incompatibilities with Materials of Construction:	none known

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.

SAFETY DATA SHEET

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits (United States): OSHA PEL: Not established ACGIH TLV: Not established

8.2. Exposure controls

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

Personal Protective Equipment: PPE: Impervious clothing, gloves, and boots. Chemical goggles should be worn at all times; use face shields as conditions warrant. NIOSH-approved chemical cartridge respirator or supplied-air breathing equipment as necessary.

Respirator Caution: Observe OSHA regulations for respirator use (29 CFR 1910.134). Air-purifying respirators must not be used in oxygen-deficient atmospheres.

Ventilation: All operations should be conducted in well-ventilated conditions. Local exhaust ventilation should be provided.

Other Engineering Controls: All appropriate engineering controls should be used to minimize exposure potential. Use exhaust ventilation to keep airborne concentrations below exposure limits.

Thermal Hazards: Not applicable.

Additive or Synergistic Effects: None known.

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.
Vapor Pressure:	Not available.	Evaporation Rate:	< 1 (Butyl Acetate = 1)
Specific Gravity or Density:	1.000	Vapor Density (air = 1):	Not available.
Boiling Point:	100 °C	Freezing / Melting Point:	160 - 165 °F
Solubility in Water:	Soluble	Octanol / Water Coefficient:	Not available.
pH:	> 7	Odor Threshold:	N
Viscosity:	Not available.	Autoignition Temperature:	Not available.
Flash Point and Method:	350°F (177°C) (Pensky-Martens Closed Cup)	Flammable Limits:	Not available. (LEL) – Not available. (UEL)

9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity Not classified as dangerously reactive.

10.2. Chemical stability Stable

SAFETY DATA SHEET

<u>10.3. Possibility of hazardous reactions</u>	Will not occur.
<u>10.4. Conditions to avoid</u>	Strong oxidizers.
<u>10.5. Incompatible materials</u>	Strong oxidizing agents
<u>10.6. Hazardous decomposition products</u>	Products of incomplete combustion may include CO, CO ₂ and dense smoke.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute Oral LD ₅₀ :	Oral LD ₅₀ (rat) > 90000 mg/kg Oral LD ₅₀ (rat) > 5000 mg/kg
Acute Dermal LD ₅₀ :	Not available.
Acute Inhalation LC ₅₀ :	Not available.
Skin Irritation:	Non-irritating to skin.
Skin Sensitization:	No data available.
Eye Irritation:	May cause slight irritation.
Target Organs:	None known
Carcinogenicity:	No data available.
Teratogenicity:	No data available.
Reproduction:	No data available.
Neurotoxicity:	No data available.
Mutagenicity:	No data available.
Additional Toxicity Information:	Skin irritation, rabbit, (0.5/5.0); not a skin irritant. Eye irritant, rabbit; An eye irritant.

SECTION 12: Ecological information

<u>12.1. Toxicity</u>	Not available.
<u>12.2. Persistence and degradability</u>	No data No data available.
<u>12.3. Bioaccumulative potential</u>	No data
<u>12.4. Mobility in soil</u>	No data
<u>12.5. Results of PBT and vPvB assessment</u>	Not available.
<u>12.6. Other adverse effects</u>	No data available. Not available.

SECTION 13: Disposal considerations



SAFETY DATA SHEET

13.1. Waste treatment methods

US EPA Waste Number: Non-Hazardous

Waste Disposal: Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable international, national, regional, state or local laws. Do NOT dump into any sewers, on the ground, or into any body of water. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used. Note that disposal regulations may also apply to empty containers and equipment rinsates.

SECTION 14: Transport information

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

SECTION 15: Regulatory information

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

OSHA Hazards: Irritant (eye). Not applicable.

WHMIS Classification: Class D, Division 2, Subdivision B: Irritant.

Chemical Inventory Lists: **Status**

TSCA:	Present
EINECS:	231-791-2 239-481-9 263-060-9
Canada(DSL/NDL):	DSL
Japan:	(8)-289; (2)-1333
Korea:	KE-35400 KE-20775 KE-14499
Australia:	Present
New Zealand:	Present

SAFETY DATA SHEET

China: Present
Philippines: Present
Switzerland: Not Listed

New Zealand GHS Classification: Not classified by this country.

Japan GHS Classification: Not classified by this country.

Korea (MOL) GHS Classification: Not classified by this country.

Australia GHS Classification: Not classified by this country.

Taiwan GHS Classification: Not classified by this country.

Indonesia GHS Classification: Not classified by this country.

SARA 313: Not listed.

Reportable Quantities: None.

15.2. Chemical safety assessment

Not applicable.

SECTION 16: Other information

Full text of R phrases in Section 3: R36: Irritating to the eyes.

SAFETY DATA SHEET

Legend of abbreviations:

ACGIH = American Conference on Governmental Industrial Hygienists.
CAS = Chemical Abstracts Service.
CERCLA = Comprehensive Environmental, Response, Compensation and Liability Act (1990).
CFR = Code of Federal Regulations.
DSL/NDL = Domestic Substances List/Non-Domestic Substances List.
EC = European Community.
EEC = European Economic 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.
MOL = Ministry of Labor.
NEMA = National Emergency Management Agency.
NFPA = National Fire Protection Association.
NIOSH = National Institute of Occupational Safety and Health.
NTP = National Toxicological 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.

Precautionary Statement: 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.

Revision Date: 5 November 2010

Original Date of Issue: 19 March 2010

Issued By: Regulatory Management Department

Revision Details: Revised in all sections to GHS format.