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PRODUCT INFORMATION BULLETIN

ETHYL LACTATE

Regulatory Agency Information
OSHA-DOT

PREPARATION/REVISION DATE
LMP 05/23/05

PRODUCT INFORMATION BULLETIN MATERIAL SAFETY DATA SHEET

TRADE NAME: VERTECBIO ETHYL LACTATE

SECTION 1

MANUFACTURER'S NAME VERTEC BIOSOLVENTS, INC.		EMERGENCY TELEPHONE NO. 800-424-9300 (CHEMTREC)	
ADDRESS 1441 Branding Lane, Suite 100 Downers Grove, Illinois 60515 USA			
CHEMICAL NAME Ethyl Hydroxy Propionate		COMMON NAME Ethyl Lactate	
DOT CLASSIFICATION Combustible Liquid		FORMULA CH ₃ -CH(OH)-COO-CH ₂ CH ₃	

SECTION 2 INGREDIENTS

CHEMICAL OR COMMON NAME	PERCENT	CAS NO.	APPLICABLE PEL-OSHA	EXPOSURE LIMITS TLV-ACGIH
Ethyl Lactate	>99%	97-64-3	None established	None established

CARCINOGENIC INGREDIENTS

CHEMICAL OR COMMON NAME	%	REFERENCE IARC	SOURCE NTP	OSHA	OTHER
None identified	-	-	-	-	-

SECTION 3 HEALTH HAZARD DATA

ACUTE HEALTH EFFECTS

Eyes Irritant.
Skin Contact Not an irritant.
Ingestion May cause irritation of the digestive tract.
Inhalation May cause irritation of mucous membranes.

CHRONIC HEALTH EFFECTS

Oral - Allowed as food additive by FDA and FAO/WHO
None known, not listed as a carcinogen.

ROUTES OF ENTRY

Most common, skin and inhalation.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Mist may cause eye/respiratory irritation with coughing.

SECTION 4 FIRST AID MEASURES

EYES	Immediately flush with water for at least 15 minutes. See a medical doctor immediately.
SKIN	Wash affected area with soap and water.
INHALATION	Remove person to fresh air. If discomfort occurs and persists, obtain medical attention.
INGESTION	Induce vomiting. See a medical doctor immediately.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA	Water, water fog, carbon dioxide (CO ₂), dry chemical.
SPECIAL FIREFIGHTING PROCEDURES	Wear a self-contained breathing apparatus.
DEGREE OF FIRE AND EXPLOSION HAZARD	Moderate. Rags soaked with any solvent can present a fire hazard and should be stored in UL listed or Factory Mutual approved, covered containers. Improperly stored rags, under certain conditions can lead to spontaneous combustion. Not an explosion hazard.
HAZARDOUS DECOMPOSITION PROCEDURES	None required when completely combusted, decomposes to water and CO ₂ . However, during a fire, incomplete combustion can result in the production of CO.

SECTION 6 ACCIDENTAL RELEASE / SPILL MEASURES

PROCEDURE FOR RELEASE OR SPILL	Cover with large quantity of absorbent material (e.g. kitty litter) and collect in drums for disposal. Clean contaminated area with soap and water.
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SECTION 7 CHEMICAL AND PHYSICAL DATA									
MELTING POINT (°C)	Not applicable	SPECIFIC GRAVITY (H ₂ O=1) @ 25 C	1.029-1.037						
BOILING POINT	309° F	PERCENT VOLATILE BY VOLUME (%)	100						
VAPOR PRESSURE (mmHg)	1.7 @ 68°F	EVAPORATION RATE (butyl acetate=1)	0.22						
VAPOR DENSITY (AIR=1)	4.07	pH OF WATER DISPERSION	4, 10% solution						
SOLUBILITY	100%, in water	APPEARANCE AND ODOR	Clear, colorless liquid with a mild odor						
FLASH POINT (method used)	145° F, ASTM D93	FLAMMABLE LIMITS	<table border="1"> <thead> <tr> <th></th> <th>LeI</th> <th>Uel</th> </tr> </thead> <tbody> <tr> <td>@ 212 F</td> <td>1.6%</td> <td>10.6%</td> </tr> </tbody> </table>		LeI	Uel	@ 212 F	1.6%	10.6%
	LeI	Uel							
@ 212 F	1.6%	10.6%							
EXTINGUISHING MEDIA	Water, foam, CO ₂	ODOR THRESHOLD	0.89 mg/m ³ (0.18ppm)						
SPECIAL FIRE FIGHTING PROCEDURES	None required	BULK DENSITY (G/ML)	Not applicable						
INCOMPATIBILITY (materials to avoid)	Strong oxidizing agents.	VOC CONTENT	906 g/l (7.56 lbs/gal)						
HAZARDOUS DECOMPOSITION PRODUCTS	Incomplete combustion can produce CO.	PARTITION COEFFICIENT	n-octanol/water No data						
		AUTOIGNITION TEMPERATURE	752° F						
		EXPLOSIVE PROPERTIES	Not applicable						
		OXIDIZING PROPERTIES	Not applicable						
SECTION 8 STABILITY AND REACTIVITY DATA									
STABILITY	Stable								
HAZARDOUS POLYMERIZATION	None known								
CONDITIONS TO AVOID	None known								
MATERIALS TO AVOID	Strong oxidizing agents.								
CONTAMINANTS THAT CONTRIBUTE TO INSTABILITY	None known								
INCOMPATIBILITY	None known								
HAZARDOUS DECOMPOSITION PRODUCTS	None known								
SENSITIVITY TO MECHANICAL IMPACT	None known								
SENSITIVITY TO STATIC DISCHARGE	None known								
SECTION 9 TOXICOLOGICAL INFORMATION									
EYE CONTACT	Irritant (rabbit)								
SKIN CONTACT	LD 50 (rat/24hrs.) >2000mg/kg								
SKIN ABSORPTION	No data available								
INHALATION	LC 50 (rat/4 hrs.) > 5400 mg/m ³								
INGESTION	LD 50 > 4090 mg/kg (rat) (RTECS 1985-6)								
ACUTE EFFECTS FROM OVEREXPOSURE	May cause irritation of the eyes.								
CHRONIC EFFECTS FROM OVEREXPOSURE	None identified.								
(effects considered include: sensitivities, carcinogenicity, teratogenicity, mutagenicity, synergistic products, and any medical conditions generally recognized as being aggravated by exposure)									
SECTION 10 ECOLOGICAL INFORMATION									
ENVIRONMENTAL FATE	100% Biodegradable								
ENVIRONMENTAL EFFECTS	No adverse effects known or suspected. Not listed as a toxic chemical under SARA Title III 302, 304 or 313								
SECTION 11 HANDLING AND STORAGE									
HANDLING	Keep container tightly closed. Store in a cool, dry, well-ventilated, liquid storage area.								
VENTILATION	Use adequate general or local exhaust ventilation to keep vapor and mist levels as low as possible.								
STORAGE	Store in a cool dry area, away from oxidizers and acids.								
SECTION 12 EXPOSURE CONTROL / PERSONAL PROTECTION									
RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT	None required where adequate ventilation conditions exist.								
RESPIRATORY VENTILATION	Recommended								
Local Exhaust	In most cases adequate ventilation can be achieved by use of an industrial floor or pedestal fan, combined with sizable inlet and outlet openings to the workspace, such as doors and/or windows.								
Mechanical (general)	Use chemical goggles.								
EYE PROTECTION	Use impervious gloves to prevent skin contact.								
GLOVES	Aprons recommended. If clothing becomes contaminated, remove and launder before reuse.								
SPECIAL CLOTHING AND EQUIPMENT	None identified.								
OTHER PROTECTIVE EQUIPMENT	Industrial safety shoes are recommended in all industrial settings.								
FOOT PROTECTION	None identified.								
OTHER ENGINEERING CONTROLS	Do not smoke in areas of storage or use. Avoid all contact with skin and eyes.								
WORK PRACTICES	Minimize eye and skin contact by using appropriate protective equipment. Use local or general room ventilation to control vapors or mist that may be generated into the work environment.								
CONTROL MEASURES									

SECTION 13 SPECIAL PRECAUTIONS DATA**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING**

Avoid all contact with eyes or skin. Wear the appropriate protective equipment. Protect containers from physical damage.

MAINTENANCE PERSONNEL

Wash down vessels. Check the oxygen and combustible vapor content of the vessel atmosphere. Use the appropriate protective equipment.

SECTION 14 DISPOSAL PROCEDURES**WASTE DISPOSAL METHOD**

Take up with sand or other non-combustible absorbent material and place into container for later disposal. Flush area with water. Dispose in accordance with all applicable Federal, State, and local environmental regulations. Spent product may be offered for fuel blending incineration.

SECTION 15 TRANSPORT INFORMATION**DOT PROPER SHIPPING NAME**

VertecBio Ethyl Lactate (under 119 gallons)

IATA

Ethyl Lactate,3,UN1192,PGIII

IMDG

None

DOT CLASSIFICATION

Combustible liquid

DOT LABELS

None required, under 119 gallons

DOT MARKING

Not applicable

DOT PLACARD

Bulk: Combustible liquid, 1993

IDENTIFICATION NUMBER

UN 1192

PACKING GROUP

III

HAZARDOUS SUBSTANCE/RQ

None

49 STCC NUMBER

Not applicable

PRECAUTIONS TO BE TAKEN IN TRANSPORTATION

None needed

OTHER SHIPPING INFORMATION

None

SECTION 16 REGULATORY INFORMATION**OSHA EXPOSURE LIMITS SUBSTANCE(S)**

Ethyl Lactate

OSHA PEL-TWA

None established

STEL

None established

CEILING

None established

SKIN DESIGNATION

None established

ACGIH TLV-TWA

None established

STEL

None established

CEILING

None established

SKIN DESIGNATION

None established

TARGET ORGAN EFFECTS

Eye

CARCINOGENIC POTENTIAL

None

REGULATED BY OSHA

No

LISTED ON NTP REPORT

No

IARC GROUP 1, 2A, 2D

No

US EPA REQUIREMENTS RELEASE REPORTING CERCLA (40 CFR 302)**LISTED SUBSTANCE(S)**

Not listed

RQ

Not applicable

Category

Not applicable

RCRA waste number

Not applicable

UNLISTED SUBSTANCE(S)

Ethyl Lactate

RQ

None

Characteristic

Not applicable

RCRA waste number

Not applicable

SARA TITLE III SEC 313 (40 CFR 372)**LISTED TOXIC CHEMICAL**

Not listed

INVENTORY REPORTING SARA TITLE III SEC 311/312 (40 CFR 370)**SUBSTANCE(S)**

Not listed

Hazard category

Not applicable

Planning threshold

Not applicable

Emergency planning

Not applicable

SARA TITLE III SEC 302-303 (40 CFR 355)**Listed substance(s)**

Not listed

RQ

Not applicable

Planning threshold

Not applicable

US TSCA STATUS

Listed

CANADA INGREDIENT DISCLOSURE LIST SUBSTANCE(S)**CONTROLLED PRODUCT**

Not listed

HAZARD SYMBOLS**CLASS AND DIVISION****PRODUCT IDENTIFICATION NO.****DOMESTIC SUBSTANCE LIST**

Listed

CEPA PRIORITY LIST

Not listed

SECTION 16 REGULATORY INFORMATION (CONTINUED)			
CARCINOGENICITY ACGIH APPENDIX A A1 - CONFIRMED HUMAN A1 - SUSPECTED HUMAN	Not listed in either OSHA, ACGIH, NTP, or IARC Not listed Not listed Not listed		
IARC GROUP 1 OR 2	No		
LABEL LANGUAGE (US/CANADA) HEALTH	Not applicable		
PHYSICAL HANDLING AND STORAGE	Keep container tightly closed. Store in a cool, dry, well-ventilated liquid storage area.		
FIRST AID	In case of contact, immediately flush eyes with water for at least 15 minutes. If irritation persists, obtain medical attention. Flush skin with water.		
STATE REGULATIONS			
SECTION 17 ADDITIONAL INFORMATION			
OSHA permissible exposure limit or ACGIH threshold limit value has not been established.			
SECTION 18 HMIS LABEL			
HEALTH 1	FLAMMABILITY 2	REACTIVITY 0	PERSONAL PROTECTION B

GROUND TRANSPORTATION (DOT)
Hazardous Materials Regulations, 49 CFR
Exception allowed under 173.150
(Under 119 gallons)

Proper Shipping Name: VertecBio EL
Hazard Class: None
Packaging Group: None
Reportable Quantity: None
Label Required (Drums): None

GROUND TRANSPORTATION (DOT)
Hazardous Materials Regulations, 49 CFR
Exception allowed under 173.150
(Over 119 gallons)

Proper Shipping Name: Combustible Liquid, n.o.s. (Ethyl Lactate),
Combustible liquid, NA1993, PG III
Hazard Class: Combustible Liquid
Packaging Group: III
Reportable Quantity: None
Placard Required: Combustible liquid 1993

OCEAN TRANSPORTATION (IMO)

Proper Shipping Name: VertecBio EL
Hazard Class: None
Packing Group: None
Label Required: None
Stowage on Vessels: Above or Below Deck

AIR TRANSPORTATION (IATA)

Proper Shipping Name: Ethyl Lactate, 3, UN1192, PGIII
Hazard Class: 3
Packing Group: III
Max. Quantity Pass. Aircraft: 60L/container
Max. Quantity Cargo Aircraft: 220L/container

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