MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment
		

See Section 8.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code:	L1168
Product Name:	LINALYL ACETATE
Chemical Name:	1,6-Octadien-3-ol, 3,7-dimethyl-, acetate
Synonyms:	3,7-Dimethyl-1,6-octadien-3-ol acetate 3,7-Dimethyl-1,6-octadien-3-yl acetate Acetic acid linalool ester Bergamiol Licareol acetate Linalol acetate Linalool acetate
Recommended use:	Flavoring ingredient. Perfuming agent. Soaps. In cleaning products.
CAS #:	115-95-7
Formula:	C12-H20-O2
RTECS #	RG5910000
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Martin LaBenz (West Coast)
Contact Person:	Chris Terpak (East Coast)

2. HAZARDS IDENTIFICATION

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EMERGENCY OVERVIEW

WARNING! IRRITANT. Irritating to skin. Irritating to eyes. Irritating to respiratory system. WARNING! COMBUSTIBLE LIQUID.

Odor:	**Physical state:**	**Appearance:**	**Color:**
Floral, Fruity, Bergamot-lavender, Pear-like	Liquid.	Oily.	Clear. Colorless.

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:
Skin. Eyes. Inhalation. Ingestion.

Acute Potential Health Effects:

Skin Contact:
Irritating to skin.

Eye Contact:
Irritating, but will not permanently injure eye tissue. May cause conjunctivitis.

Inhalation:
Irritating to respiratory system. May cause central nervous system effects.

Ingestion:
Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhoea. May cause central nervous system effects.

Chronic Potential Health Effects:

Target Organs: Central nervous system.

Carcinogen Status: No information available

Mutagenic Effects: No information available

Teratogenic Effects: No information available

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Linalyl Acetate	115-95-7	100

4. FIRST AID MEASURES

General Advice:	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation persists, call a physician. Get medical attention.
Eye Contact:	Flush eye with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.
Notes to Physician:	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F):	85-90°C/185-194°F

Lower Explosion Limit (%):	No information available
Upper Explosion Limit (%):	No information available

Autoignition Temperature (°C/°F):	No information available

Suitable Extinguishing Media:	Dry chemical. Carbon dioxide (CO2). Water spray mist or foam.
Unsuitable Extinguishing Media:	High volume water jet. Do not use a solid (straight) water stream as it may scatter and spread fire.
Hazardous Combustion Products:	Carbon oxides
Specific hazards:	Combustible material. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated. When heated to decompositon it emits acrid smoke and irritating fumes.
Special Protective Equipment for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
Specific Methods:	Water mist may be used to cool closed containers. For fires involving tanks or car/trailer load, cool containers with flooding quantities of water until well after the fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Use spark-proof tools and explosion-proof equipment. All equipment used when handling the product must be grounded. Remove all sources of ignition.

Environmental Precautions:
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods for Cleaning Up:
Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:
Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from direct sunlight. Keep away from heat and sources of ignition. Store in a segrated and approved area. Store away from incompatible materials.

Incompatible Products:
Oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal Protective Equipment

Eye protection: Goggles.

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

National occupational exposure limits

United States
U.S Occupational Exposure Limits: Not determined

Canada
Canada Occupational Exposure Limits: Not determined

Australia and Mexico
Occupational Exposure Limits for Australia and Mexico: Not determined

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:
Liquid

Appearance:
Oily.

Color:
Clear. Colorless.

Odor:
Floral. Fruity. Bergamot-lavender. Pear-like.

Taste
No information available

Molecular weight:
196.28

Flash point (°C) :
85

Lower Explosion Limit (%):
No information available

Upper Explosion Limit (%):
No information available

Autoignition Temperature (°C/°F):
No information available

pH:
No information available

Boiling point/range(°C/°F):
220°C/428°F

Melting point/range(°C/°F):
No information available

Decomposition temperature(°C/°F):
No information available

Specific gravity:
No information available

Density (g/cm3):
0.8590 at 20 °C

Bulk density:
No information available

Vapor pressure @ 20°C (kPa):
0.013

Vapor density:
6.77

Evaporation rate:
No information available

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

Partition coefficient (n-octanol/water):
3.93

Miscibility:
No information available

Solubility:
Insoluble in water
Soluble in alcohol
Soluble in Ether
Soluble in Diethyl phthalate
Soluble in Benzyl benzoate
Soluble in mineral oil
Slightly soluble in Propylene glycol
Insoluble in Glycerol

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions

Conditions to avoid: Heat. Ignition sources.

Materials to avoid: Strong oxidising agents.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Possibility of Hazardous Reactions: No information available

Polymerization: Hazardous polymerisation does not occur

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Linalyl Acetate - 115-95-7

LD50/oral/rat = = 13934 mg/kg Oral LD50 Rat
LD50/oral/mouse = No information available
LD50/dermal/rabbit = Not determined
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No infomaton available

Product Information

LC50/inhalation/rat = No information available
LC50/Inhalation/mouse = No information available
LD50/dermal/rabbit = No information available
LD50/dermal/rat = Not information available
LD50/oral/rat = 13934 mg/kg
LD50/oral/mouse = No information available

Local Effects

Skin irritation: Irritating to skin.

Eye irritation: Irritating to eyes.

Inhalation: Irritating to respiratory system. May cause central nervous system effects, central nervous system depression. Aspiration may lead to pulmonary edema. Inhalation of high concentrations may cause asphixiation.

Ingestion: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. May affect behavior/central nervous system (somnolence, ataxia).

Sensitization: No information available

Chronic Toxicity

Chronic Toxicity No information available

Carcinogenic effects: Not considered carcinogenic

Mutagenic Effects: No information available

Reproductive Effects: No information available

Teratogenic Effects: No information available

Target Organs: Central nervous system.

12. ECOLOGICAL INFORMATION

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ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: No information available

Ecotoxicity effects: No data available

Aquatic toxicity: No information available

Mobility: No information available

Persistence and degradability: No information available

Bioaccumulative potential: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Linalyl Acetate	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: None
Subsidiary Risk: Not applicable
Marine Pollutant: No data available
ERG No: No information available
DOT RQ (lbs): No information available

TDG (Canada)

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

ADR

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

Proper Shipping Name: No information available

UN-No: Not regulated
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
MFAG: No information available
Maximum Quantity: No information available

RID

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available

ICAO

UN-No: Not regulated
Hazard Class: No information available
Proper Shipping Name: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

IATA

Proper Shipping Name: No information available
UN-No: Not regulated
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Linalyl Acetate	Present	Present	KE-11622	2-2536	Present	Present	204-116-4

U.S. Regulations

California Prop. 65: Safe Drinking Water and Toxic Enforcment Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Linalyl Acetate	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting *de minimis*
Linalyl Acetate	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Linalyl Acetate	Not Applicable	Not Applicable

Canada

WHMIS hazard class:
B3 Combustible liquid
D2B Toxic materials

Inventory

Components	Canada (DSL)	Canada (NDSL)
Linalyl Acetate	Present	Not Listed

EU Classification

R36/37/38 - Irritating to eyes, respiratory system and skin.

S -phrase(s)
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37 - Wear suitable gloves.

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Contains: Linalyl acetate

Indication of danger:
Xi - Irritant.

16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1-2004 standards.

Preparation Date 28-Jul-2010

Reason for revision: Not applicable

Prepared by: Sonia Owen

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.