



MATERIAL SAFETY DATA SHEET

LLDPE

1730 NE Miller Street
McMinnville, OR 97128
(503) 434-5561

Emergency Phone
(800) 424-9300

Information Phone Number
(503) 434-5561

SECTION I - Chemical Product Identification

Product Name

LLDPE

Product Code

LLDPE

Chemical Family

Polyethylene Copolymer

CAS Number

25087-34-7

Chemical Name

1-Butene, polymer with ethene

SECTION II - Hazard Identification

EMERGENCY OVERVIEW

This material is NOT HAZARDOUS by OSHA Hazard Communication definition. Trade secret chemical identities will be revealed to treating physicians in an emergency or to a health professional, employee or designated representative in non-emergency situations after execution of a secrecy agreement.

Signal Word

CAUTION

Hazards

Dust may form explosive mixtures with air. At process temperatures irritating fumes may be produced. Molten polymer may cause thermal burns.

HMIS	Health	Flammability	Physical Hazard
	0	1	0
Physical State		Solid	
Color		Translucent to white.	
Odor		Faint, mild hydrocarbon odor.	
Odor Threshold		No value available	

Potential Health Effects

Routes of Exposure

Eye - Inhalation - Skin

Signs and Symptoms of Acute Exposure

See component summary.

1-Butene, polymer with ethene 25087-34-7

Hot material may cause thermal burns. At process temperatures, irritating fumes may cause soreness in the nose and throat; coughing may result. Mechanical irritation is possible.

Skin

Molten polymer may cause thermal burns.

Inhalation

Inhalation of process fumes and vapors may cause soreness in the nose and throat and coughing. "Nuisance dust" such as polymer dust typically exhibit no significant health effect when they are reasonably controlled. Exposure to high concentrations of dust may cause slight irritation by mechanical action.

Eye

Mechanical irritation is possible.

Ingestion

Ingestion is not a likely route of exposure.

Chronic Health Effects

See component summary.

1-Butene, polymer with ethene 25087-34-7

No known chronic health effects.

Conditions Aggravated by Exposure

No known conditions are aggravated by this material.

SECTION III – Composition / Information on Ingredients

Component Name	CAS #	EU Inventory	Concentration	Wt. % *
1-Butene, polymer with ethene	25087-34-7	Monomers are EINECS listed Additives are EINECS listed	98.0	<=100.0 <=2.0

Compositions given are typical values, not specifications.

SECTION IV - First Aid Measures

General

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information, refer to the Emergency Overview in Section 2 of this MSDS.

Skin

If molten material contacts the skin, immediately flush with large amounts of water to cool the affected tissue and polymer. Do not attempt to peel polymer from the skin. Obtain emergency medical attention.

Inhalation

If symptoms are experienced, move victim to fresh air. Obtain medical attention if breathing difficulty persists.

Eye

Flush eyes thoroughly with water for several minutes and seek medical attention if discomfort persists.

Ingestion

Adverse health effects due to ingestion are not anticipated.

Note to Physician

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Treat burns or allergic reactions conventionally after decontamination.

SECTION V - Fire Fighting Measures

Flammable Properties

Classification

Not Classified. Polymer will burn but does not easily ignite.

Flash Point

Not applicable

Auto-ignition Temperature

343°C (649.4°F)

Lower Flammable Limit

Not Applicable.

Upper Flammable Limit

Not Applicable.

Extinguishing Media

Suitable:

SMALL FIRE: Use DRY chemicals, CO₂, water spray

LARGE FIRES: Use large quantities of water spray

Protection of Firefighters

Protective Equipment / Clothing: Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear.

Fire Fighting Guidance: Polyolefin dust particles in the atmosphere are combustible and may be explosive. Avoid sparks, heat, open flame.

Hazardous Combustion Products: Carbon monoxide, olefinic and paraffinic compounds, trace amounts for organic acids, ketones, aldehydes and alcohols may be formed.

SECTION VI - Accidental Release Measures

Release Response

Equip responders with proper protection. Potential dust explosion hazard. Avoid generating dust. Creates dangerous slipping hazard on any hard, smooth surface. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible. Pick up and retain for recycle or disposal.

SECTION VII - Handling and Storage

Handling

Keep away from heat, sparks, open flame, or any ignition source. Use with adequate ventilation. Spilled material can make walking hazardous, potentially causing falls and serious injury. After handling, always wash hands thoroughly with soap and water.

Storage

Keep container dry. Store away from excessive heat and away from strong oxidizing agents. Keep container closed to prevent contamination.

SECTION VIII – Exposure Controls / Personal Protection

Engineering Controls

Ventilate area to prevent accumulation of dust and fumes.

Personal Protection

Inhalation

A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Use appropriate respiratory protection where atmosphere exceeds recommended limits.

Skin

Use chemical resistant gloves appropriate to conditions of use. Wear heat protective gloves and clothing if there is a potential for contact with heated material. Protective clothing such as long sleeves or a lab coat should be worn.

Eye

Dust service goggles should be worn to prevent mechanical injury or other irritation to eyes due to airborne particle, which may result from handling this product.

Additional Remarks

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing / wash thoroughly before reuse. Material spilled on hard surface can be a serious slipping / falling hazard. Use care in walking on spilled material.

Occupational Exposure Limits

Consult local authorities for acceptable exposure limits.

SECTION IX - Physical and Chemical Properties

Appearance:	Solid Translucent to white
Odor:	Faint, mild hydrocarbon odor
Odor Threshold:	No value available
pH:	Not applicable
Boiling Point / Boiling Range:	Not applicable
Freezing Point / Melting Point:	104 – 138 °C (219.2 – 280.4 °F)
Flash Point	Not applicable
Auto-ignition:	343 °C (649.4 °F)
Flammability:	Not classified. Polymer will burn but does not easily ignite.
Lower Flammable Limit:	Not applicable
Upper Flammable Limit:	Not applicable
Explosive Properties:	No Data Available
Oxidizing Properties:	No Data Available
Vapor Pressure:	Not applicable
Evaporation Rate:	Not applicable
Relative Density:	-0.91 – 0.98 (water = 1)
Relative Vapor Density:	Not applicable
Viscosity:	Not applicable
Solubility (Water):	Insoluble
Partition Coefficient (Kow):	No data available
Additional Physical and Chemical Properties:	No additional information available

SECTION X - Stability and Reactivity

Chemical Stability

This product is stable.

Conditions to avoid

Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

Substances to avoid

Material may be softened by some hydrocarbons.

Decomposition Products

Not expected to decompose under normal conditions.

Hazardous Polymerization

Will not occur.

Reactions with Air and Water

Does not react with air, water or other common materials.

SECTION XI - Toxicological Information

Product Summary

See component summary.

Component Information

* 1-Butene, polymer with ethene 25087-34-7

Acute Toxicity - Effects

Inhalation Rats inhaling polyethylene dust developed mild inflammatory changes in the lungs.

Ingestion No adverse health effects were noted on the digestive system of test animals when fed up to 20% polyethylene.

Repeated Dose Toxicity

Subchronic. 50-90 day feeding studies conducted on rats, dogs and swine showed no effects from dietary levels of 1-20% powdered and shredded polyethylene.

Carcinogenicity

Not listed by IARC, NTP, OSHA or EPA.

Repeated Dose Toxicity

No known chronic health effects.

Carcinogenicity

Not listed by IARC, NTP, OSHA or EPA.

SECTION XII - Ecological Information

Ecotoxicity

See component summary.

Environmental Fate and Pathway

See component summary

Component Information

* 1-Butene, polymer with ethene 25087-34-7

Ecotoxicity

Ecotoxicity is expected to be minimal based on the low water solubility of polymers.

Environmental Fate and Pathway

This material is not volatile and insoluble in water.

Persistence and Degradability

Biodegradation: This material is expected to be resistant to biodegradation.

Bioaccumulation: Not expected to occur.

* Proprietary Additives Mixture

Ecotoxicity

No Data Available.

Environmental Fate and Pathway

No Data Available.

SECTION XIII - Disposal Considerations

All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible. Use only licensed transporters and permitted facilities for waste disposal.

SECTION XIV - Transport Information

Special Requirements

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

Proper Shipping Name

POLYETHYLENE, OTHER THAN LIQUID, NOT REGULATED

SECTION XV - Regulatory Information

Country	Inventory	
Australia	AICS	X
Canada	DSL	X
China	IECS	X
European Union	EINECS	X
Japan	ENCS	X
Korea	ECL	X
Philippines	PICCS	X
United States	TSCA	X

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

SARA – 302/304:

This product contains no known chemicals regulated under SARA 302 / 304.

SARA – 311/312:

Based upon available information, this material is not classified as a health and/or physical hazard according to Section 311 & 312.

SARA – 313:

This product contains no known chemicals regulated under SARA 313.

State Reporting

This product contains no known chemical regulated by California’s Proposition 65.

This product contains no known chemical regulated by New Jersey’s Worker and Community Right to Know Act.

This product contains no known chemical regulated by Massachusetts’s Right to Know Law.

This product contains no known chemical regulated by Pennsylvania’s Right to Know Act.

Section XVI - Other Information

Latest Revision

3/2011

Freelin-Wade believes that the information and recommendations contained herein (including data and statements) are accurate as of the data hereof. **NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OR MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION CONTAINED HEREIN.** The information provided herein relates only to the specific product designated and may not be valid where such product is used in the combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of Freelin-Wade, Freelin-Wade expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.
