

Safety Data Sheet(SDS)

Last revised date : 09-06-2023

1. Identification

1) Product identifier : LLDPE UL412A

2) Recommended use of the chemical and restrictions on use

○ Recommended use of the chemical

Feed materials, Intermediates

○ Restrictions on use

Use for recommended use only

Do not use it for weapons manufacturing and related purposes.

3) Details of the supplier of the safety data sheet

○ Seller

Company name : Lotte Chemical Corporation

Address : 05551 Lotte World Tower, 300, Olympic-ro, Songpa-gu, Seoul, 05551 Rep. of KOREA

Telephone number :

Basic Chemicals	+82-2-829-4114	Advanced Materials	+82-31-596-3114
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Emergency phone number

Yeosu Plant	+82-61-688-2100	Ulsan Plant	+82-52-278-3500
Daesan Plant	+82-41-689-5900	Yeosu Plant(Advanced Materials)	+82-61-689-1100

Fax number : +82-2-834-6070

2. Hazards identification

1) Hazard classification

- Not applicable

2) Allocation label elements

Hazard pictograms

- Not applicable

Signal word

- NONE

Hazard statements

- Not applicable

Precautionary statements

- Not applicable

3) Other hazards:

According to experience and information provided, this product does not affect harmful effects when using and handling it as a regulation.

3. Composition/Information on ingredients

Chemical name	Common name	CAS No.	Content(wt%)
1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer	1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer	25087-34-7	$\geq 95 \sim \leq 100$

4. First-aid measures

1) Following eye contact

- Call a physician immediately.

2) Following skin contact

- Get medical attention if irritation develops and persists.
- Remove contaminated clothing and shoes.

3) Following inhalation

- If symptoms persist, call a physician.
- Move to fresh air.

4) Following ingestion

- If accidentally swallowed obtain immediate medical attention.

5) Delayed and immediate effects and also chronic effects from short and long term exposure

No data available

6) Advice to physician

- In the case of accident or if you feel unwell, seek medical advice immediately.

5. Fire-Fighting measures

1) Suitable (and unsuitable) extinguishing media

○ Suitable extinguishing media

- Large fire: Water spray/fog, regular foam (Suitable extinguishing media).
- Small fire: Dry sand, dry chemical, alcohol-resistant foam, water spray, regular foam, CO₂ (Suitable extinguishing media).
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

- Unsuitable extinguishing media
 - Do not use a solid water stream as it may scatter and spread fire.

2) Special hazards arising from the substance or mixture

- Pyrolytic product
 - No data available
- Risk of fire and explosion
 - Heating or fire can release toxic gas.
- Other
 - May cause toxic effects if inhaled.

3) Special protective equipment for firefighters

- In the event of fire, wear self-contained breathing apparatus.

6. Accident release measures

1) Personal precautions, protective equipment and emergency procedures

- Avoid dust formation.

2) Environmental precautions

- Try to prevent the material from entering drains or water courses.

3) Methods and materials for containment and cleaning up

- Keep in suitable, closed containers for disposal.
- Pick up and arrange disposal without creating dust.

7. Handling and storage

1) Precautions for safe handling

- For personal protection see section 8.
- Smoking, eating and drinking should be prohibited in the application area.

2) Conditions for safe storage (including any incompatibilities)

- Please note that materials and conditions to be avoided.
- Store in a dry place. Store in a closed container.

8. Exposure controls & personal protection

1) Chemical exposure limits, Biological exposure standard

- Contains no substances with occupational exposure limit values.

2) Appropriate engineering controls

- Ensure adequate ventilation and exhaust ventilation at the workplace.

3) Personal protective equipment

- Respiratory protection
 - If you have a direct contact or exposed to the material, wear the appropriate form of respiratory protection certified.

- Eye protection
 - If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
- Hand protection
 - Wear chemical safety gloves.
- Skin protection
 - Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

9. Physical and chemical information

Property name	Values	Source
Appearance		
Physical state	solid	
Color	White	
Odor	Odorless	
Odor threshold	No data available	
pH	Not applicable	
Melting point/freezing point	85 - 140 °C	
Initial boiling point and boiling range(°C)	Not applicable	
Flash point(°C)	> 221 °C	
Evaporation rate	Not applicable	
Flammability(solid, gas)	No data available	
Upper/lower flammability or explosive limits	Not applicable	
Vapour pressure	Not applicable	
Solubility(ies)	Insolubility	
Vapour density	Not applicable	
Relative density	No data available	
n-octanol/water partition coefficient	No data available	
Auto ignition temperature	> 300 °C	
Decomposition temperature	No data available	
Viscosity(mm²/s, 40°C)	No data available	
Molecular weight(mass)	> 1,000 g/mol	
Density	0.91 - 0.97 g/cm³	
Specific gravity	0.91 - 0.97	

10. Stability and reactivity

1) Chemical stability and Possibility of hazardous reactions

- No decomposition if stored and applied as directed.
- Stable at normal ambient temperature and pressure.

2) Conditions to avoid

- Follow precautionary advice and avoid incompatible materials and conditions

3) Incompatible materials

- Combustible material

4) Hazardous decomposition products

- This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regula

11. Toxicological information

1) Information on the likely routes of exposure

- No data available

2) Health hazard information

○ Acute toxicity

- Acute toxicity(Oral) LD50 (Rat) : > 8,000 mg/kg
 - No data available
- Acute toxicity(Dermal) PRODUCT : Not classified
 - No data available
- Acute toxicity(Inhalation:Gases) PRODUCT : Not classified
 - No data available
- Acute toxicity(Inhalation:Vapours) PRODUCT : Not classified
 - No data available
- Acute toxicity(Inhalation:Dust/mist) LC50 (Rat) : 75.5 mg/l (Exposure time: 30 minutes)
 - No data available

○ Skin corrosion/irritation PRODUCT : Not classified

- No data available

○ Serious eye damage/eye irritation PRODUCT : Not classified

- No data available

○ Respiratory sensitization PRODUCT : Not classified

- No data available

○ Skin sensitization PRODUCT : Not classified

- No data available
- Carcinogenicity PRODUCT : Not classified
 - No data available
- Germ cell mutagenicity PRODUCT : Not classified
 - No data available
- Reproductive toxicity PRODUCT : Not classified
 - No data available
- Specific target organ toxicity single exposure PRODUCT : Not classified
 - No data available
- Specific target organ toxicity repeated exposure PRODUCT : Not classified
 - No data available
- Aspiration hazard PRODUCT : Not classified
 - No data available

12. Ecological information

- 1) Ecotoxicity
 - No data available
- 2) Persistence and degradability
 - No data available
- 3) Bioaccumulative potential
 - n-octanol water partition coefficient
 - 1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer : (None)
- 4) Mobility in soil
 - No data available
- 5) Other adverse effects
 - No data available

13. Disposal considerations

- 1) Disposal methods
 - Empty containers should be taken to an approved waste handling site for recycling or disposal.
- 2) Precautions (including disposal of contaminated container or package)
 - Dispose of in accordance with local regulations.
 - Send to a licensed waste management company.

14. Transport information

- 1) UN No. : Not applicable
- 2) Proper shipping name : Not applicable
- 3) Hazard class : Not applicable
- 4) Packing group : Not applicable
- 5) Marine pollutant : Not applicable
- 6) Special precautions for user related to transport or transportation measures :
 - Emergency measures in case of fire : Not applicable
 - Emergency measures in the effluent : Not applicable
- ADR
 - Tunnel restriction code : Not applicable
- IMDG
 - Marine pollutant : Not applicable
- Air transport(IATA)
 - UN No. : Not applicable
 - Proper shipping name : Not applicable
 - Class or division : Not applicable
 - Packing group : Not applicable
- Maritime transport in bulk according to IMO instruments :
 - Not applicable

15. Regulatory information

Australia Industrial Chemicals Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

- Inventory - China - Inventory of Existing Chemical Substances (IECSC)

- 1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer : Present
[06470]

92/32/EEC

- Not applicable

European Union Official Journal of the European Communities 15 June 1990 - Annex Based on Article 13 of Directive 67/548/EEC Amended by Directive 79/831/EEC

- Not applicable

Japan Law Concerning the Examination and Regulations of Manufacture, etc. of Chemical Substances

- Inventory - Japan - Existing and New Chemical Substances (ENCS)

- 1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer : (6)-18

New Zealand Environmental Protection Authority, Inventory of Chemicals

- Inventory - New Zealand - Inventory of Chemicals (NZIoC)

- 1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer : May be used as a single component chemical under an appropriate group standard

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

- Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)

- 1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)

- 1-Butene, polymer with ethene , Ethylene,polymer with 1-butene, Ethylene/1-butene copolymer : Present 15969

16. Other information

1) Reference

NCIS, KOSHA, Montreal Protocol, ECHA, OECD SIDS, EU IUCLID, HSDB(PubChem), NITE, NTP, ACGIH, IARC, NIOSH, ChemIDplus, EPA, EPI Suite, INCHEM

2) Issue date : 26-12-2022

3) Revision date

- Revised date count : 2-2
- Last revised date : 09-06-2023

4) Other

ACGIH : American Conference of Governmental Industrial Hygienists
ADR : Agreement Concerning the International Carriage of Dangerous Goods by Road
ATE : The Acute Toxicity Estimate
ECHA : European Chemicals Agency
EPA : United States Environmental Protection Agency
EPI Suite : The Estimation Programs Interface for Windows
EU IUCLID : International Uniform Chemical Information Database
HSDB : Hazardous Substances Data Bank
IARC : International Agency for Research on Cancer

IATA : International Air Transport Association
IMDG : International Maritime Dangerous Goods Codes
INCHEM : Internationally Peer Reviewed Chemical Safety Information
M-Factor : The Multiplication Factor
NIOSH : National Institute of Occupational Safety and Health
NITE : National Institute of Technology and Evaluation(JAPAN)
NTP : National Toxicology Program
SCL : Specific Concentration Limit
OECD SIDS : Organization for Economic Co-operation and Development Screening Information Dataset