

# Safety Data Sheet(SDS)

Revision date : 01-06-2026

## 1. Identification

- 1) Product identifier : LLDPE UF414
- 2) Relevant identified uses of the substance or mixture and uses advised against
  - Relevant identified uses
    - 1.Raw materials and intermediates
  - Restrictions on use
    - Use for recommended use only
    - Do not use it for weapons manufacturing and related purposes.
- 3) Supplier information
  - Seller
    - Company name : Lotte Daesan Petrochem Corporation
    - Address : 82 Dokgot 1-ro, Daesan-eup, Seosan-si, Chungcheongnam-do
    - Telephone number : +82-41-689-5114
    - Emergency phone number : (Control Room) +82-41-689-5119
    - Fax number : +82-41-689-5985

## 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	1-Butene, polymer with ethene, Ethylene, polymer with 1-butene, Ethylene/1-butene copolymer	25087-34-7	>=95 ~ <=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

- 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	Soild	
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(mm <sup>2</sup> /s, 40°C)	No data available	
Molecular weight(mass)	> 1,000 g/mol	
Density	0.91 - 0.97 g/cm <sup>3</sup>	
Specific gravity	0.91 - 0.97	

## 10. Stability and hazardous 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) Delayed and immediate effects and also chronic effects from short and long term exposure
  - 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 min)
      - 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

- Fish  
No data available
- Crustaceans  
No data available
- Aquatic algae  
No data available

### 2) Persistence and degradability

- Degradability  
No data available
- Biodegradation  
No data available

### 3) Bioaccumulative potential

- n-octanol water partition coefficient  
- 1-Butene polymer with ethene  
: (None)
- Bioconcentration factor(BCF)  
No data available

### 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 : No
  - 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 : No
- Air transport(IATA)
- UN No. : Not applicable
  - Proper shipping name : Not applicable
  - Class or division : Not applicable
  - Packing group : Not applicable

### 15. Regulatory information

Australia Industrial Chemicals Notification and Assessment Act

- Inventory - Australia - Inventory of Industrial Chemicals (AIIC)
  - 1-Butene polymer with ethene : Present

China Inventory of Existing Chemical Substances (IECSC)

- Inventory - China - Inventory of Existing Chemical Substances (IECSC)
  - 1-Butene polymer with ethene : 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 - ISHL Ordinance Hazardous Substances Whose Names Are to be Indicated on the Label

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 : (6)-18

New Zealand Environmental Protection Authority, Inventory of Chemicals

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

- 1-Butene polymer with ethene : 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 : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

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

- 1-Butene polymer with ethene : Present 15969

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## 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 : 3-1

○ Last revised date : 01-06-2026

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

GHS/EN