

Safety Data Sheet(SDS)

Revision date : 01-06-2026

1. Identification

- 1) Product identifier : FR-160U
- 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%)
Polypropylene	Polypropylene, 1-Propene, homopolymer, Polypropylene wax	9003-07-0	>=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

- 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	Soild	
Color	transparent	
Odor	Odorless	
Odor threshold	No data available	
pH	Not applicable	
Melting point/freezing point	150 - 170 °C	
Initial boiling point and boiling range(°C)	Not applicable	
Flash point(°C)	No data available	
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	> 380 °C	
Decomposition temperature	> 300 °C	
Viscosity(mm ² /s, 40°C)	No data available	
Molecular weight(mass)	> 1,000 g/mol	
Density	0.89 - 0.91 g/cm ³	
Specific gravity	No data available	

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
 - Polypropylene
 - : LD50> 8000 mg / kg experimental species: Rat
 - 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) PRODUCT : Not classified
 - 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
 - Polypropylene
 - : 3 (IARC)
- 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
 - No data available
- 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 : No data available

- 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)
- Polypropylene : Present

China Inventory of Existing Chemical Substances (IECSC)

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

- Polypropylene : Present [21278]

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)

- Polypropylene : (6)-402

New Zealand Environmental Protection Authority, Inventory of Chemicals

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

- Polypropylene : 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)

- Polypropylene : Present

U.S. Toxic Substances Control Act

Vietnam National Chemicals Inventory (NCI)

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

- Polypropylene : Present 12100

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