

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1-1) Product Identifier

Trade name : Low Density Polyethylene (LDPE)
Synonyms : Ethane, homopolymer, PE
Substance name : Polyethylene
Substance No. : 9002-88-4
Prepared by : Bakhtar Petrochemical Co.

1-2) Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

- **Identified Uses** : Manufacture of plastic articles by injection molding, extrusion or other conversion process.
- **Prohibited Uses** : FDA Class III medical devices; European class III medical devices; Health Canada class IV Medical Devices; Applications involving permanent implantation into the body; Life-sustaining medical applications.

2. HAZARDS IDENTIFICATION

2.1) Classification of the Substance or Mixture

- Classification (REGULATION (EC) No 1272/2008)
- Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

2-2) Label Elements

- Labeling (REGULATION (EC) No 1272/2008)
- Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008.

2-3) Other Hazards

- If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.
- May decompose releasing irritating and toxic gases.
- This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT) or very persistent and very bio accumulative (vPvB).

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: : Polyethylene (99% Minimum)

CAS No. : 9002-88-4

The non-hazardous components and exact percentage (concentration) of the composition have been withheld as a trade secret.

This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous.

4. FIRST AID MEASURES

If Inhalation	: Move to fresh air in case of accidental inhalation of fumes from overheating or combustion. If symptoms persist, call a physician.
On Skin Contact	: Immediately cool the skin by rinsing with cold water after contact with hot material Wash off immediately with soap and plenty of water. Consult a physician.
On Contact with Eyes	: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If eye irritation persists, consult a specialist.
On Ingestion	: No hazards which require special first aid measures.
Precautions	: Cool molten product on skin with plenty of water. Do not remove solidified product Do not peel polymer from the skin.

5. FIRE-FIGHTING MEASURES

Autoignition Temperature	: >350°C
Explosive Limits Upper	: Not determined
Explosive Limits Lower	: Not determined
Suitable Extinguishing Media	: Use dry chemical, CO ₂ , water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.)

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

Unsuitable Extinguishing Media for Safety Reasons	: Do not use a solid water stream as it may scatter and spread fire
Hazardous Decomposition Products	: Fire will produce dense black smoke containing hazardous combustion products, carbon oxides.
Special Protective Equipment for Firefighters	: In the event of fire, wear self-contained breathing apparatus (EU: NEN-EN137)
Specific Hazards:	: Take precautionary measures against static discharges during processing, dust may form explosive mixture in air thermal decomposition can lead to release of irritating gases and vapors

6. ACCIDENTAL RELEASE MEASURES

Clean up	: Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air.
Personal Precautions	: See section 8. If spilled, take caution, as material can cause surfaces to become very slippery.
Environmental Precautions	: Do not flush into surface water or sanitary sewer system. Material should not be released into the environment.

7. HANDLING AND STORAGE

Handling	: Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Minimize dust generation and accumulation. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Storage	: Store in a dry and cool area. Keep away from heat sources and sources of ignition. Keep away from direct sunlight.

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Exposure limits:** : No components with information, unless noted below
- Engineering Measures to Exposure** : In the case of hazardous fumes, wear self-contained breathing apparatus. Wear face-shield and protective suit for abnormal processing problems. Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation at machinery.
- Hand Protection** : Protective gloves should be worn. (EU: NEN-EN 374). When handling hot material, wear heat-resistant protective gloves that are able to withstand the temperature of molten resin.
- Eye Protection** : Safety glasses with side-shields. (EU: NEN-EN 165-166).
- Respiratory Protection** : In the case of hazardous fumes, wear self-contained breathing apparatus. In case of insufficient ventilation wear suitable respiratory equipment. (EU: NEN-EN149).
- Body Protection** : Long sleeved clothing. (EU: NEN-EN 340-369-465).
- Hygiene Measures** : When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Solid
- Appearance** : Pellets
- Color** : Translucent to white
- Odor** : Slight.
- Flammability (Solid, Gas)** : Polymer will burn but does not easily ignite.
- Boiling point/range** : decomposition starting from 300°C
- Melting point/range** : 50-170°C
- Autoignition Temperature** : >300°C

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

Oxidizing Properties	: Not considered as oxidizing agent.
Vapor Pressure	: Not Applicable
Evaporation Rate	: Not Applicable
Relative Vapor Density	: Not Applicable
Density	: <1 g/cm ³
Water Solubility	: Insoluble
Evaporation Rate	: Not Applicable
VOC content (%)	: Not Applicable
PH	: Not Applicable
Upper Explosive Limits	: Not Applicable
Lower Explosive Limits	: The minimum explosive concentration (MEC) for polymer dust varies according to particle size distribution.

10. STABILITY AND REACTIVITY

10-1) Reactivity:

No known reactivity hazards.

10-2) Chemical stability:

Stable under normal conditions.

10-3) Possibility of hazardous reactions

Hazardous reactions : Will not occur.

10-4) Conditions to avoid

Conditions to avoid : Avoid contact with strong oxidizers, excessive heat, sparks or open flame.

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

10-5) Incompatible materials

Materials to avoid : Material may be softened by some hydrocarbons.

10-6) Hazardous decomposition products

Hazardous decomposition products: Not expected to decompose under normal conditions.

Thermal decomposition: Carbon monoxide, olefinic and paraffinic compounds, trace amounts of organic acids, ketones, aldehydes and alcohols may be formed.

11. TOXICOLOGICAL INFORMATION

11-1) Information on toxicological effects

- **Acute toxicity**
 - Acute oral toxicity: Not classified
 - Acute inhalation toxicity: Not classified
 - Acute dermal toxicity: Not classified
 - Skin corrosion/irritation: Not a skin irritant.
 - Serious eye damage/eye irritation: Not an eye irritant. Mechanical irritation is possible.
 - Respiratory or skin sensitization: Not classified
- **Chronic toxicity**
 - Carcinogenicity: Not classified
 - Germ cell mutagenicity: Not classified
- **Reproductive toxicity**
 - Effects on fertility/Effects on or via lactation: Not classified
 - Effects on Development: Not classified
- **Target Organ Systemic Toxicant - Single exposure:** The substance or mixture is not classified as specific target organ toxicant, single exposure.
- **Target Organ Systemic Toxicant - Repeated exposure:** The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
- **Aspiration hazard:** Not applicable.

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

12. ECOLOGICAL INFORMATION

12-1) Toxicity

- **Ecotoxicology Assessment**
 - Acute aquatic toxicity: Not classified
 - Chronic aquatic toxicity: Not classified

12-2) Persistence and degradability

- **Biodegradability:** Not expected to be biodegradable.

12-3) Bioaccumulative Potential

- **Bioaccumulation:** This material is not expected to bioaccumulate.

12-4) Mobility in Soil

Additional advice Environmental fate and pathways: This material is not volatile and insoluble in water.

12-5) Results of PBT and vPvB Assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB).

12-6) Other Adverse Effects

- **Additional Ecological Information:**
 - Ecotoxicity is expected to be minimal based on the low water solubility of polymers.
 - No data available on this product. However, birds, fish and other wildlife may eat pellets which may obstruct their

SAFETY DATA SHEET

Low Density Polyethylene (LDPE)

13. DISPOSAL CONSIDERATIONS

13-1) Waste treatment methods

- **Product:**

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.

Recycle if possible.

14. TRANSPORT INFORMATION

Not regulated as hazardous for shipment, unless noted below, under current transportation guidelines.

15. REGULATORY INFORMATION

- **EC Classification:** Not classified as dangerous for supply/use.
- **Hazard Symbol:** Not applicable.
- **Risk Phrases:** Not applicable.
- **Safety Phrases:** Not applicable.
- **INTERNATIONAL INVENTORIES:**
EINECS (Europe): EINECS: Polymer. Monomers included.

16. OTHER INFORMATION

DISCLAIMER: The information contained in the Safety Data Sheet is at the date of its issuance to the best of our knowledge correct according to the data available to us. The information is meant as a guideline for safe use, handling, disposal, storage and transport of products and does not imply any warranty (not implied nor explicitly) or specification. The Supplier shall to the extent permitted by law not be liable for any error or incorrectness in the information contained in this Safety Data Sheet. The information relates exclusively to the specified products, which may not be suitable for combination with other materials or use in processes other than those specifically described here.