



MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

Chemical Names & Synonyms: High Density Polyethylene (HDPE)

Trade name: G- Lex, G- Lene^{HD}

Chemical Characterization: Polyolefin resin; PE

Formula: (C₂H₄)_n

Manufacturer's Name: GAIL (India) Limited
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Dist. Auraiya
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CAS No.: 9002-88-4

Component	Content	Hazard Data
Polyethylene	>=99 wt %	Non hazardous
Various additives (Antioxidants, UV Stabilizers, Anti-blocking agents etc.)	<1 wt%	Mixture. No hazards resulting from material as supplied.

2. PHYSICAL & CHEMICAL DATA

Form: Solid , Granular

Color: Translucent to White

Odor: Odorless

Melting Point: 120 – 150 °C

Boiling Point: Not Applicable

Decomposition Temperature: > 300°C

Specific Gravity: 0.94 - 0.97

Vapour Pressure: Not Applicable

Vapour Density: Not Applicable

Solubility in water: Insoluble

Volatiles: <0.1% by volume

pH (Value): Not Applicable

Evaporation Rate: Not Applicable



3. FIRE AND EXPLOSION HAZARD DATA

Flash Point:	>300 °C
Auto Ignition temperature:	>300 °C
Flammable Limits:	Not Applicable
Extinguishing Media:	Water, foam, dry chemical, Carbon dioxide.
Special Fire Fighting procedure:	None.
Protective equipment for Fire Fighters:	Self-contained breathing apparatus may be necessary to approach a fire, particularly in a confined area.
Unusual Fire and Explosion Hazard:	A fire involving polyethylene resin will generate large amounts of smoke, CO and other organic compounds.

4. REACTIVITY DATA

Chemical stability:	This product is stable under normal use conditions for shock, vibration, pressure or temperature. Decomposes at prolonged heating above 300 °C.
Hazardous Polymerisation:	Not likely to occur.
Corrosivity:	Product is not corrosive
Condition to Avoid:	Direct contact with open flames, self-igniting and explosive materials. Avoid strong oxidizing agents. Avoid Processing material over 300°C. Avoid Heat & direct sunlight.
Dangerous products of decomposition:	No hazardous decomposition products known at room temperature. At elevated temperature the material will begin to decompose producing fumes that can contain CO ₂ , CO, dense smoke & other toxic vapours.

5. FIRST AID MEASURES

GENERAL INFORMATION: At room temperature the product is neither an irritant nor gives off hazardous vapours. The measures listed below apply to critical situations (Fire, incorrect process conditions).

Skin Contact: If molten material contacts the skin it may cause thermal burns, immediately flush with large amounts of cold



water to cool the affected skin and polymer. Do not attempt to peel the polymer from skin. Obtain immediately emergency medical attention if burn is deep or extensive.

Eye Contact:

Dust, fines and process vapours may irritate the eyes. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek medical attention if discomfort persists.

Inhalation:

Dust and process vapours may irritate the nose, throat and respiratory tract. If symptoms are experienced, move victim to fresh air. Obtain medical attention if breathing difficulty persists.

Ingestion:

Adverse health effects due to ingestion are not anticipated. Do not induce vomiting. If symptoms develop, obtain medical attention

Permissible Exposure Limit (ACIGH TLV/TWA):	10 mg/M3 (total dust) as an inert or nuisance dust.
NFPA Ratings	HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0 SPECIAL: NA
Odor Threshold	No value Available

6. PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENT:

Respiratory system:

Product processing, heat sealing of film or operations involving the use of wires or blades heated above 300°C may produce dust, vapour or fumes. To minimize risk of over exposure to dust, vapour or fumes it is recommended that a local exhaust system is placed above the equipment, and that the working area is properly ventilated. If ventilation is inadequate, use certified respirator that will protect against dust/mist.

Skin and body

Hot material: Wear heat-resistant protective gloves, clothing and face shield able to withstand the temperature of the molten product. Cold material: None required; however, use of gloves is good industrial practice.

Hand

Hot material: Wear heat-resistant protective gloves able to withstand the temperature of the molten product.

Cold material: None required; however, use of gloves is good industrial practice.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only short time of protection before they must be discarded and



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replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Eyes

Safety glasses with side shields. Use dust goggles if high dust concentration is generated.

Environmental Protection

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

HANDLING:

- No special requirements necessary, if handled at room temperature.
- Avoid spilling the product, as this might cause falls.
- Will accumulate static charges that may cause an electric spark (ignition source).
- Take precautionary measures against static discharges.
- Do not eat, drink or smoke at the work place.
- After handling, wash face and hands before eating, drinking or smoking.

STORAGE:

Requirements to be met by storerooms and containers:

- This product may react with strong oxidising agents & should not be stored near such materials.
- Store the bags in areas protected with automatic sprinklers.
- Storage temperature should be ambient. (preferably below 50 °C) Open flames prohibited.
- Store the product in bags, car silos, container, or large cartons to avoid contamination.

Further information about storage conditions:

- Protect from heat and direct sunlight.
- Store container in a well ventilated position.
- Store under dry conditions.
- **Specific applications:** For industrial use only, for safe stacking follow the storage recommendations specific for this product.

7. EMERGENCY MEASURES

ENGINEERING CONTROLS:

Use in a well-ventilated area. If handling results in dust generation, special ventilation may be needed to minimize dust exposure. If heated material generates vapour or fumes, use process enclosures, local exhaust ventilation, or other engineering controls to control exposure.



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FIRE FIGHTING MEASURES

Suitable Extinguishing Media	As appropriate for surrounding fire. Extinguish preferably with foam, Carbon Dioxide, water/water mist or dry chemical.
Unsuitable Extinguishing Media	Do not direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.
Fire Fighting Protective Equipment	A self-contained breathing apparatus and suitable protective clothing, eye protection etc. should be used in fire conditions.
Hazardous Decomposition Product	Combustion or thermal decomposition will evolve toxic and irritant vapours.
Unusual Fire & Explosion hazards	Avoid accumulation & dispersion of dust in air to reduce potential for dust ignition/ explosions.

ACCIDENTAL RELEASE MEASURES

Land spill	Carefully sweep up or vacuum and transfer to a dry container. Recover spillage for recycling or disposal. Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations.
Water spill	Consult an expert on disposal of recovered material and ensure conformity to local disposal regulations. Recover the spilled material and place in suitable containers for recycling or disposal.
Waste Disposal Method	Recycle (reprocess). Do not allow to enter drains, sewers or watercourses. Disposal through landfilled or controlled incineration or authorised waste dump in accordance with Local, State or National Regulations. Waste generators must determine whether a discarded chemical is classified as a hazardous waste.
Caution	Polyethylene pellets on floors are slippery and may cause slipping hazard.

8. ADDITIONAL INFORMATION/ REFERENCES

The information provided in this Material Safety Data Sheet has been based upon the current level of information available, for the purpose of specifying the requirements regarding environment, health and safety in conjunction with the product. GAIL, Pata shall not be responsible for any damage or injury resulting from abnormal use of the Product, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the Product. Appropriate warnings and safe handling procedures should be provided to all handlers and users.