

MATERIAL SAFETY DATA SHEET

Product Line: Seal top bags

SECTION I – Chemical Product and Company Identification

Product name

1. Iranian Petrochemical Commercial Company (IPCC)	Polyethylene-LDPE
2. Sasol Polymer Middle East (SPME)	LDPE-Low Density Polyethylene
Chemical Name	Polyethylene (low density)
Manufacturer	Arya Sasol Polymer Company Pars Special Economic Energy Zone Assaluyeh Islamic Republic of Iran
Emergency telephone number:	Tel: +98 772 7264142 4242 Fax: +98 021 88645209

The following product from Arya Sasol are covered under this MSDS:

Trade names ASPC: LTL2130, LTL2185/47, LTL2185, LTM2119X, LTL2125/37, LTL2575, LTM2447/47, LTH1922

Trade name SPME: LF2103, LF2109A, LF2109, LF2119, LF2125A, LF2508, LF2447A, LM1922

Trade name IPCC: LH0030, LS0085KJ, LS0085, LF0190, LF0250KJ, LH0075, LT0470KJ, LI2200

SECTION II – Composition / Information on Ingredients

This chemical product is a preparation.

Common chemical name: Low density polyethylene

Formula: (-CH₂-CH₂-)_n

Generic name: Polyolefin's

CAS number: 9002-88-4

Synonym(s): LDPE

Components contributing to the hazard: None

SECTION III – Hazards Identification

Specific hazards:

Inhalation: When/if inhaled, fines may cause mechanical irritation of the respiratory tract; Coughing.

Skin contact: Material is unlikely to cause irritation, but if contact with molten material occurs, treat as for thermal burn (see also section IV).

Eye contact: Fines can cause mechanical irritation; Red eyes.

Ingestion: No hazard.

The material is not classified as being a dangerous preparation according to the EEC-Directive 88/379 and the subsequent amendments. See also section XV.

Risk phrases: Not applicable.

SECTION IV – First-aid Measures

Inhalation:

When fumes of molten material have been inhaled:

- move person to fresh air as quickly as possible
- rest in half upright position
- loosen clothing
- keep warm

In case of respiratory problems move person to first aid station for medical treatment.

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Skin contact:

Any molten material on the skin/burns should be cooled (of) as quickly as possible by means of cold water. Cover the wound with sterile cloth and move person to first aid station or hospital for medical treatment.

Eye contact: Any material entering the eye should be flushed out with copious volumes of water.

Ingestion: No danger of toxicity, this material is biologically inactive (see also section XI).

SECTION V – Fire Fighting Measures

Extinguishing media: Water, water/foam, CO2, ABC fire extinguishing powder.

On fire	Extinguishing medium	Method	
Processing plant	Polymer Equipment	Water/foam CO2 ABC Powder	Spray cooling CO2 snow extinguisher ABC powder extinguisher
Storage	Bags Bulk silo	Water, water/foam cooling with water	Spray cooling Firehouse jet
Transport	Lorry/pallets Bulk car	Water, water/foam Water/foam	Spray cooling Cover fire side

Not to be used for reasons of safety: not applicable

Specific hazards:

Solid: Treat the material as a solid that can burn. Molded parts or solid granules generally burn slowly with a low smoke density and flaming drips, carbon monoxide and irritating oxygen containing organic substances are released.

Product fines: A spark can ignite an explosive concentration of product fines in air (see section VII and IX).

Vapors: Hot vapors – from heated material – plus air can be extremely inflammable in the case of stoichiometric mixtures.

Combustion products: No harmful additives are present with respect to the material (see section X).

Protection for the fire-fighters: Do not approach fire in confined space without positive pressure self contained breathing apparatus and full bunker gear. Bunker coats, helmet with face shield, gloves and rubber boots.

Note: Cool fire exposed containers with water.

SECTION VI – Accidental Release Measures

Personal precautions: Apply ample grounding with respect to dust explosion danger caused by released dust. See section VIII. Protection of skin/eye/hand: see section VIII.

Environmental precautions: For disposal considerations : see section XIII.

Cleaning up methods: Shovel or sweep up, use special industrial vacuum cleaner to suck possible fines/dust. Avoid generating dust clouds. Put into containers for reclaiming or disposal.

SECTION VII – Handling and Storage

Handling precautions

General precautions: For safe polymer processing the material should be completely dry.

Personal protection: For more information on personal protection when handling the material see section VIII.

Hygiene measures: Adequate washing facilities, with supplies of mild soap and hand cleanser should be available at all working locations. Solvents should never be used as hand cleansers. Smoking, eating and drinking in working and storage areas should be prohibited.

Technical measures

Ventilation: general mechanical

A ventilation system should be installed where:

- Melt processing of the material is carried out

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- Solid material is being grinded or machine
- Any high temperature processing is carried out (e.g. sealing)

Ventilation: local exhaust

It is advised to install local exhaust ventilation in the vicinity of processing machines.

Prevention of dust generation

Suppression: optimize the piping system used for pneumatic transport (surface, corners, length, velocities)

Filtering: take extreme care of dust explosion danger and apply local grounding where the presence of fines plus static electricity in or near the pneumatic transport lines is very likely.

Note: When handling the granulate normally dust will not be a problem with respect to breathing. During regrinding operations the use of a dust mask is advised.

Prevention of fire and explosion: See information on static discharges in section VII.

Storage

Technical measures: Owing to the electrostatic properties of the material and its fines a grounding installation for storage silos and pneumatic transport is obligatory. Other ways of prevention with respect to electrostatic hazards are: inerting i.e. lowering oxygen concentration by means of nitrogen supply, control of transport speed, etc.

Storage conditions: Avoid prolonged storage in open sunlight, high temperatures and/or high humidity as this could well speed up alteration and consequently loss of quality of the material and this could lead to unforeseen dangers. Keep polymer completely dry for good processing (in spite of increased static danger). Stack pallets only two high when storing, in order to prevent collapsing. Slip agent containing material should only be stacked two high after checking the integrity of the packaging.

Incompatible products: not applicable

SECTION VIII – Exposure Controls / Personal Protection

Control parameters:

Threshold limit value (TLV): a provisional TLV (TWA 8 hours) is advised in accordance with the TLV of non-toxic nuisance dust:

- 10 mg/m³ for inhalable dust
- 5 mg/m³ for respirable dust

Personal protective equipment:

Respiratory protection: When TLV is accidentally exceeded see section VII (prevention dust generation)

Hand protection: When handling a hot melt, heat resistant gloves should be worn (e.g. when purging a processing machine)

Eye protection: When handling a hot melt, heat resistant face shields should be worn (e.g. when purging a processing machine)

Skin and body protection: The use of apron, boots and/or full protective suit is not prescribed here; it is up to the decision of the processor.

Protective clothing (Pictograms)



SECTION IX – Physical and Chemical Properties

Polymer properties:

Physical state: Solid (at +20 °C)

Form: Granulate

Color: Colorless, natural opaque

Odor: Weak paraffinic

pH value: Not applicable

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Relative density: 919-925 kg/m³
Bulk density: 520-630 kg/m³
Melting point/range: 104-115 °C
Softening point/range: 83-98 °C
Viscosity: Not applicable
Boiling point/range: Not applicable
Vapor pressure: Not applicable
Vapor density: Not applicable
Evaporation rate: Not applicable
Solubility in water: Insoluble
Solubility in other substances: Soluble only in some aromatic hydrocarbons and/or n-paraffines (>C₁₄) at high temperatures.
Partition coefficient (n-octanol/water): Not applicable
Miscibility: Not applicable
Volume conductivity: Low, danger of static charges

Safety properties
Decomposition temp.: > 300 °C
Flash point: > 360 °C
Auto ignition temp.: > 360 °C

Dust explosive properties
Lower Explosion Limit (LEL): Mandatory to remain < 10 g/m³ air (fines)
Minimum ignition temp.: 410 °C
Dust Explosion Class (st): St 1 (fines)

SECTION X – Stability and Reactivity

The material is chemically uncreative. Under certain conditions however hazardous reactions can take place.

Conditions to avoid

Material fines: Material fines – accidentally released in air – can result in an explosive concentration (see section VI, VII and IX)

Electrostatic loading: For information on safety measures regarding electrostatic loading see:

Section VII “Prevention of dust generation” and

Section VII “Technical measures”.

Dust/powder air mixtures: -

Gas/vapor air mixtures: At high temperatures (local hot spots) inserting should possibly be applied in order to strongly reduce oxygen concentrations. Stabilization of the polymer results in inflammable gases being formed only at higher than usual temperatures. Great care should be taken to process the material at moderate temperatures (i.e. well below +350 °C) in order to avoid explosive vapor/air mixtures.

Processing temperatures: Do not exceed 320 °C

Long term exposure: Do not expose for long periods to temperatures above 80 °C. Do not expose to UV-light (see also section VII).

Materials to avoid: Strong oxidizing agents.

Hazardous decomposition products: At processing temperatures some degree of thermal degradation will occur. Although highly dependent on temperature and environmental conditions a variety of decomposition products may be present in small amounts, ranging from simple inflammable hydrocarbons (e.g. methane, propane) to toxic and/or irritating gases (e.g. carbon monoxide, carbon dioxide, acids, ketones, aldehydes).

Changes in physical appearance: Dust (and powder) fines can cause extremely dangerous situations compared with base material (see section V, VI, VII and IX). There is no possibility of degradation to unstable products under normal circumstances. Only at extreme temperatures (above the decomposition temperature) degradation will occur.

Stabilization: None

SECTION XI – Toxicological Information

Acute toxicity: None (LD50 oral rat > 5000 mg/kg)
Local effect: None
Chronic toxicity: None
Sensitization: None
Specific effects (carcinogenetic, mutagenicity, teratogenicity, narcosis): None
Additional toxicological information: When used and handled according to specifications, the product does not have any harmful effect according to our experience and the information provided to us.

SECTION XII – Ecological Information

Mobility: None
Persistence/degradability: Very low UV degradability
Bioaccumulation: None
Eco toxicity: There is no indication that this is a risk to the environment
Aquatic toxicity: Insoluble non toxic solid material (no water hazard)

SECTION XIII – Disposal Considerations

This material – as well as the packaging there off – present no danger regarding toxicological and/or ecological considerations. It can be burnt in a controlled way or be disposed of via landfill, or it can be recycled for – possibly less critical – non food applications.

Product:

Recommendation:

1. Reuse or recycle if possible
2. Disposal through controlled incineration or authorized waste dump.

Unlearned packaging:

Recommendation: disposal must be done according to official regulations.

Note: Additional national or regional provisions may be in force within this matter.

SECTION XIV – Transport Information

General precautions: Keep the material dry during transport.

Special precautions: No special precautions have to be met. This material is not classified according to the recommendations of the UN (9th Edition) on the transport of dangerous goods.

GGVSee/IMDG Code: Not applicable

ICAOTI: Not applicable

IATA-DGR: Not applicable

RID/ADR: Not applicable

UN-number: Not applicable

GGVE/GGVS: Not applicable

ADNR: Not applicable

SECTION XV – Regulatory Information

EC classification: Not regulated/classified

GHS Regulation Hazard symbol(s): Not regulated/classified

GHS Classification: Not regulated/classified

Risk phrases

Safety phrase

Product use: Industrial application

SECTION XVI – Other Information

Not applicable

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Notice to reader:

The information set forth herein has been gathered from standard references and is to the best knowledge and belief of Arya Sasol Polymer Co. accurate and reliable. ASPC supplied MSDSs for the purpose of specifying the requirements regarding environment, health and safety in conjunction of product. Arya Sasol Polymer Company and its distributors make no responsibility for inappropriate use, processing and handling by purchasers and users of the product.