

# PRODUCT DATA SHEET



MFR 1.0  
Density 920 **ETILINAS LL0209SA**

## Linear Low Density Polyethylene Heavy Duty Film Applications

### DESCRIPTION

**ETILINAS LL0209SA** is a linear low density polyethylene (LLDPE) with butene copolymer, supplied in pellet form, suitable for a wide variety of film applications. It meets the United States Food and Drug Administration (US FDA) criteria for food contact use as specified in 21 CFR 177.1520 (c) 3.1a & 3.2a and Commission Regulation (EU) No. 10/2011.

### CHARACTERISTICS include:

- Easy processing
- Low gels content
- High melt strength
- Good film transparency
- Good mechanical properties
- Low blocking force and high slip

### APPLICATIONS include:

- Food packaging
- Industrial packaging and garment bags
- Shopping bags

Product Properties*	Test Method	Units	Value
<b>General Properties</b>			
Melt Flow Rate, I <sub>2</sub>	ASTM D 1238 @ 190°C, 2.16kg	g/10min	1.0
Nominal Density	ASTM D 1505	kg/m <sup>3</sup>	920
Melting Point	ISO 3146	°C	122
Vicat Softening Temperature	ASTM D 1525, Load: 1 kg; Heating rate: 50°C/hr	°C	100
<b>Mechanical Properties</b>			
Tensile Strength at Yield, (MD/TD)	ISO 527-3	MPa	11/12
Tensile Strength at Break, (MD/TD)	ISO 527-3	MPa	40/31
Elongation at Break, (MD/TD)	ISO 527-3	%	1540/1560
Elmendorf Tear Strength, (MD/TD)	ISO 6383/2	g/25µm	160/400
Dart Impact Strength	ISO 7765-1, (A)	g	160
<b>Other Properties</b>			
Clarity	ASTM D 1746	%	90
Gloss (45°)	ASTM D 2457	GU	52
Haze	ASTM D 1003	%	30
Coefficient of Friction (COF)	ISO 8295	-	0.14

\*The physical properties shown are typical values obtained by averaging a number of test results and small divergence from quoted figures may occur.

Film properties are typical blown film of 38 microns extruded at Blow Up Ratio (BUR) 2:1

### Typical Processing Conditions

Processing temperature of **ETILINAS LL0209SA** is in the range of 170°C to 210°C depending on the production throughput.

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### REGULATORY

**ETILINAS LL0209SA** complies with the following specification when processed using good extrusion practice:-

- US FDA Regulation 21 CFR 177.1520 and CFR 178.2010.
- Commission Regulation (EU) No. 10/2011.
- HALAL certified.
- REACH, RoHS and SVHC.

### AVAILABILITY

**ETILINAS LL0209SA** are available in 25kg bags. The product grade and batch number are clearly marked on each bag.

### STORAGE/HANDLING

**ETILINAS LL0209SA** should be properly stored in well ventilated environment. Prolonged or improper storage can result in deterioration of product properties. The PETRONAS Chemicals Safety Data Sheet (SDS) contains important safety information and should be viewed before using the product.

### HEALTH & SAFETY

**ETILINAS LL0209SA** is not classified as a dangerous preparation. Please refer to our Safety Data Sheet (SDS) for details on various aspects of safety, recovery and disposal of the product.

### PRODUCT STEWARDSHIP

PETRONAS aims to increase awareness of all the hazards associated with the storage, handling and use of its products. Thoroughly reviewing the accompanying Safety Data Sheets and disseminating the information to all dependent and interested parties is an essential part of any 'Responsible Care' programme.

### RELATED DOCUMENTS

The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.

Safety Data Sheet (SDS)  
Statement on chemicals, regulations and standards  
Statement on compliance to food contact regulations

### FOR MORE INFORMATION

Please contact **PETRONAS Chemicals Group Berhad (PCGB)**, Tower 1, PETRONAS Twin Towers, Kuala Lumpur City Centre, 50088 Kuala Lumpur, Malaysia.  
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CERTIFIED TO ISO 9001:2015  
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