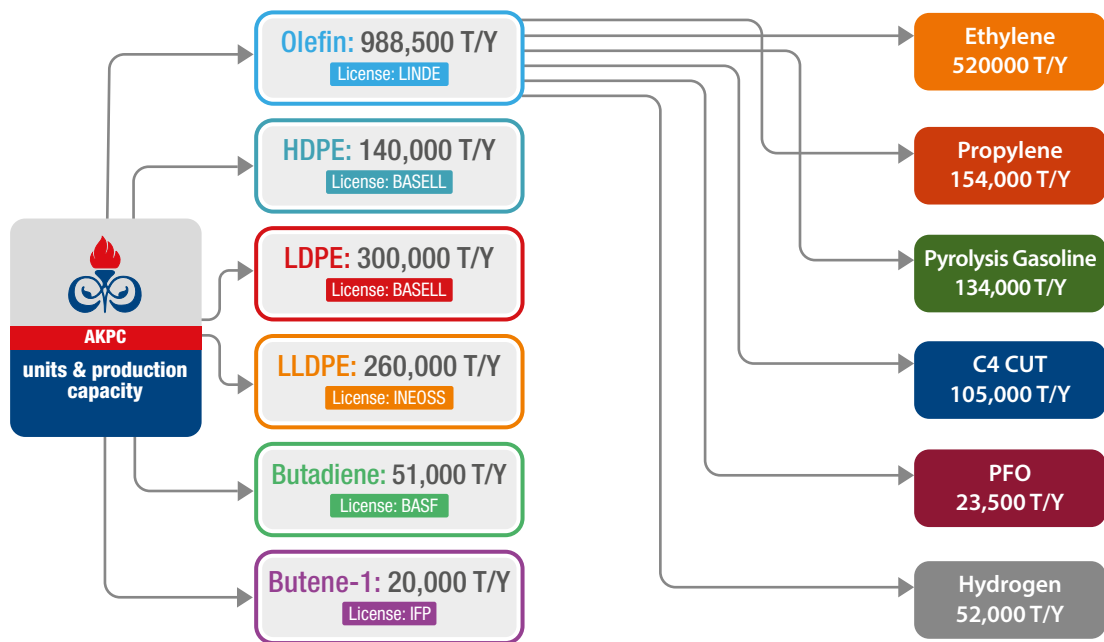




**AKPC**





**Note**

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**Note**

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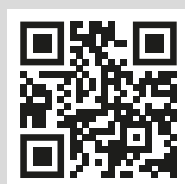


LLDPE-0209AA			
Grades	Application	Density Gr/cm <sup>3</sup>	MFI g/10min
0209AA	cord cover, wide variety of small packaging and films, pipes, housewares, liquid container and plastic bags	0.920	0.9

HDPE-EX3			
Grades	Application	Density Gr/cm <sup>3</sup>	MFI g/10min
EX3	bottle, cord cover, housewares, storage crates, small and large containers, petrol tanks, refuse bin, fish crate, carrier bag, pressure pipe e.g. gas, water and sewer pipes	0.945	0.45

LDPE-2420H			
Grades	Application	Density Gr/cm <sup>3</sup>	MFI g/10min
2420H	general purpose containers, film, polyethylene pipe, housewares, flexible injection parts, flexible toys, wide variety of car parts and etc.	0.924	1.9

LDPE-2420D			
Grades	Application	Density Gr/cm <sup>3</sup>	MFI g/10min
2420D	general purpose containers, film, polyethylene pipe, housewares, flexible injection parts, flexible toys, wide variety of car parts, etc	0.923	0.25



**Contact us**

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**LLDPE LL0205 AA /** Linear Low Density Polyethylene**1 Product Description:**

“LL0205 AA” is a LLDPE copolymer with butene-1 as comonomer which contains antioxidant. This grade is especially suitable for use pure for headwrap stretch film or blended with LDPE for heavy duty sacks.

Film made from LL0205 AA shows improved toughness compared to standard 1 MFR LLDPE butene copolymer.

Neutralizer: Calcium Stearate

Antioxidant: Irgnox1010, Irgafos168

**2 Applications:**

- Heavy duty sacks, Mulch films.
- Stretch film, liners, Geomembrane.

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No.	Property	Value	Units	Test Method
1	MFR (190 °C/2.16Kg)	0.5	g/10min	ISO 1133
2	Density	920	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield MD/TD	10/11	MPa	ISO 527
4	Tensile Strength at Break MD/TD	42/35	MPa	ISO 527
5	Elongation at Break MD/TD	600/700	%	ISO 527
6	Tear Strength MD/TD	155/375	g/25µm	ASTM D 1922
7	Dart Drop Impact	160	g	ASTM D 1709

Typical properties:

These are not to be construed as specifications

**LLDPE LLO209 AA /** Linear Low Density Polyethylene**1 Product Description:**

“LL0209 AA” is a LLDPE copolymer with butene-1 as comonomer which contains antioxidant.

It is recommended for general purpose application.

It is suitable for blending with conventional LDPE.

Film made from pure LL 0209 AA has the following advantages over conventional LDPE:

Better sealing, higher puncture resistance.

Greater drawdown capability.

Higher tensile strength.

Neutralizer: Calcium Stearate.

Antioxidant: Irganox1010, Irgafos168

**2 Applications:**

- Food Grade.
- Heavy duty sacks, Agricultural films, liners.
- Produce bags, stretch film.

No.	Property	Value	Units	Test Method
1	MFR (190 °C/2.16Kg)	0.9	g/10min	ISO 1133
2	Density	920	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield MD/TD	10/11	MPa	ISO 527
4	Tensile Strength at Break MD/TD	41/32	MPa	ISO 527
5	Elongation at Break MD/TD	620/840	%	ISO 527
6	Tear Strength MD/TD	145/370	g/25μ	ASTM D 1922
7	Dart Drop Impact	150	g	ASTM D 1709

Typical properties:

These are not to be construed as specifications

**LLDPE LLO209 KJ or SR /** Linear Low Density Polyethylene**1 Product Description:**

“LL0209 KJ” is a LLDPE copolymer with butene-1 as comonomer which contains antioxidant.

Slip and antiblock additives. It gives film of high slip which is easily separable.

It is recommended for general purpose application. It is suitable for blending with conventional LDPE. Film made from pure LL 0209 KJ has the following advantages over conventional LDPE:

Easier sealing.

Greater drawdown capability.

Higher tensile strength.

Higher puncture resistance.

**2 Applications:**

- Food Grade.
- Refuse sacks.
- Produce bags, Carrier bags.

High Slip/ Antiblock Grade			
Additive	Finawax	Silica	Talc
Neutralizer	Calcium Stearat	Calcium Stearate	Calcium Stearate
Antioxidant	Irganox1010, Irgafos168	Irganox1010, Irgafos168	Irganox1010, Irgafos168
Antiblock	Finawax-S	Siloblock47	Talc ABT 250
Slip	Finawax-O	Erucamide	Erucamide

No.	Property	Value	Units	Test Method
1	MFR (190 °C/2.16Kg)	0.9	g/10min	ISO 1133
2	Density	921	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield MD/TD	10/11	MPa	ISO 527
4	Tensile Strength at Break MD/TD	41/32	MPa	ISO 527
5	Elongation at Break MD/TD	620/840	%	ISO 527
6	Tear Strength MD/TD	145/370	g/25μ	ASTM D 1922
7	Dart Drop Impact	150	g	ASTM D 1709

Typical properties:

These are not to be construed as specifications

**LLDPE LL0220 AA /** Linear Low Density Polyethylene**1 Product Description:**

“LL0220 AA” is a LLDPE copolymer with butene-1 as comonomer which contains antioxidant. This grade is suitable for the production of blown film for light duty application and for the production of cast stretch film.

Film made from pure LL 0220 AA can be produced at higher output compared to standard 1 MFR LLDPE butene copolymers.

Neutralizer: Zinc Oxide

Antioxidant: Irganox1010, Irgafos168

**2 Applications:**

- Food Grade.
- Light and medium duty film.
- Stretch film.

No.	Property	Value	Units	Test Method
1	Melt Flow Rate (190 °C /2.16Kg)	2.2	g/10min	ISO 1133
2	Density	920	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield MD/TD	10/11	MPa	ISO 527
4	Tensile Strength at Break MD/TD	36/28	MPa	ISO 527
5	Elongation at Break MD/TD	600/800	%	ISO 527
6	Tear Strength MD/TD	110/300	g/25μ	ASTM D 1922
7	Dart Drop Impact	130	g	ASTM D 1709
8	Vicat Softening T°	93	°C	ISO 306/A50

Typical properties:  
These are not to be construed as specifications

**LLDPE LL0220 KJ /** Linear Low Density Polyethylene**1 Product Description:**

“LL0220 KJ” is a LLDPE copolymer with butene -1 as comonomer which contains antioxidant. Slip and antilock additives. This grade is suitable for the production of blown film for light duty application with a high slip requirement. Film made from LL 0220 KJ can be produced at higher output compared to standard 1 MFR LLDPE butene copolymers.

**2 Applications:**

- Food Grade.
- Light and medium duty film.

**Medium Slip/ Antiblock Grade**

Additive	Finwax	Silica	Talc
Neutralizer	Calcium Stearate	Calcium Stearate	Calcium Stearate
Antioxidant	Irganox1010, Irgafos168	Irganox1010, Irgafos168	Irganox1010, Irgafos168
Antiblock	Finawax-S	Siloblock47	Talc ABT 250
Slip	Finawax-O	Erucamide	Erucamide

No.	Property	Value	Units	Test Method
1	Melt Flow Rate (190 °C /2.16Kg)	2.4	g/10min	ISO 1133
2	Density	921	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield MD/TD	10/11	MPa	ISO 527
4	Tensile Strength at Break MD/TD	36/28	MPa	ISO 527
5	Elongation at Break MD/TD	600/800	%	ISO 527
6	Tear Strength MD/TD	110/300	g/25μ	ASTM D 1922
7	Dart Drop Impact	130	g	ASTM D 1709
8	Vicat Softening T°	93	°C	ISO 306/A50

Typical properties:  
These are not to be construed as specifications



## LLDPE HD 5218 EA / Linear Low Density Polyethylene

### 1 Product Description:

“HD 5218 EA” is an easy flow high density polyethylene copolymer grade with a narrow molecular weight distribution, suitable for thin wall injection moulding application. HD5218EA has the following characteristic:

Good flow.

High warpage resistance.

Suitable for fast cycling application.

Additive: Neutralizer; Calcium Stearate - Antioxidant: Irgafos168, DSTDP

### 2 Applications:

- Housewares.
- Thin walled food containers.
- PET bottle base cup.

No.	Property	Value	Units	Test Method
1	Melt Flow Rate (190 °C /2.16Kg)	18	g/10min	ISO 1133
2	Density	952	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield MD/TD	72	MPa	ISO 527
4	Elongation at Break MD/TD	>1000	%	ISO 527
5	Flexural Modulus	1050	MPa	ISO 178-1975
6	Charpy Impact Resistance	5	Kj/m <sup>2</sup>	ISO 179
7	Vicat Softening T°	123	°C	ISO 306/A50

Typical properties:  
These are not to be construed as specifications

## LLDPE HD 5226 EA / Linear Low Density Polyethylene

### 1 Product Description:

“HD 5226 EA” is an easy flow high density polyethylene copolymer grade with a narrow molecular weight distribution. suitable for thin wall injection moulding application.

HD5226 EA has the following characteristic:

High flow.

High warpage resistance.

Suitable for very fast cycling application.

Additive: Neutralizer; Calcium Stearate - Antioxidant: Irgafos168, DSTDP

### 2 Applications:

- Housewares.
- Thin walled food containers.
- PET bottle base cup.

No.	Property	Value	Units	Test Method
1	Melt Flow Rate (190 °C /2.16Kg)	30	g/10min	ISO 1133
2	Density	953	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield	27	MPa	ISO 527
4	Elongation at Break	>1000	%	ISO 527
5	Flexural Modulus	1050	MPa	ISO 178-1975
6	Charpy Impact Resistance	4	Kj/m <sup>2</sup>	ISO 179
7	Vicat Softening T°	123	°C	ISO 306/A50

Typical properties:  
These are not to be construed as specifications



## LLDPE HD 6070 EA / Linear Low Density Polyethylene

### 1 Product Description:

“HD 6070 EA” is a high density polyethylene grade with a narrow molecular weight distribution. Suitable for a wide range of injection moulding application.

HD 6070 EA has the following characteristic:

- Easy Processing.
- High rigidity.
- Good impact strength.
- High warpage resistance.

Additive: Neutralizer; Calcium Stearate - Antioxidant: DSTDP

### 2 Applications:

- Crates.
- Boxes.
- Seats.
- Pallets.

No.	Property	Value	Units	Test Method
1	Melt Flow Rate (190 °C /2.16Kg)	8.4	g/10min	ISO 1133
2	Density	960	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield	31	MPa	ISO 527
4	Elongation at Break	>1000	%	ISO 527
5	Flexural Modulus	1400	MPa	ISO 178-1975
6	ESCR F50, 23 °C	55	hours	ASTM D 1693
7	Charpy Impact Resistance	6	Kj/m <sup>2</sup>	ISO 179

Typical properties:  
These are not to be construed as specifications

## LLDPE HD 6070 UA / Linear Low Density Polyethylene

### 1 Product Description:

“HD 6070 UA” is a UV stabilized high density polyethylene grade with a narrow molecular weight distribution, suitable for a wide range of injection moulding application.

HD 6070 UA has the following characteristic:

- Easy processing.
- High rigidity.
- Good impact strength.
- High wrapage resistance.

Additive: Neutralizer; Calcium Stearate - Antioxidant: Irgafos168, Anti UV: Chimisorb 944

### 2 Applications:

- Crates.
- Boxes.
- Seats.
- Pallets.

No.	Property	Value	Units	Test Method
1	Melt Flow Rate (190 °C /2.16Kg)	8.4	g/10min	ISO 1133
2	Density	960	Kg/m <sup>3</sup>	ISO 1183
3	Tensile Strength at Yield	31	MPa	ISO 527
4	Elongation at Break	>1000	%	ISO 527
5	Flexural Modulus	1400	MPa	ISO 178-1975
6	ESCR F50, 23 °C	55	hours	ASTM D 1693
7	Charpy Impact Resistance	6	Kj/m <sup>2</sup>	ISO 179

Typical properties:  
These are not to be construed as specifications



Amir Kabir Petrochemical Company



**HDPE** AKPC  
Amir Kabir Petrochemical Co.

**HDPE EX1 (GF 7740F2) / High Density Polyethylene****1 Product Description:**

“EX1 (GF 7740F2)” is a high density polyethylene with Butene-1 as comonomer. It is a medium molecular mass with a narrow molar mass distribution. Stabilization: Ca-Stearate, Irganox1010, Irgafos168.

**2 Applications:**

- Stretched film tape used in manufacture of knitted and woven fabrics (Agricultural Packaging and protective cover).

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	1.6 ± 0.4
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	22 ± 4
3	FRR21.6/5	-----	-----	14 ± 2
4	Density	g/cm <sup>3</sup>	ISO 1183	0.944 ±0.002
5	Gel Number	-----	Internal Method	≤ 4
6	Gel Size	µm	Internal Method	≤ 150

Typical properties:  
These are not to be construed as specifications

**HDPE EX2 (GM 7750) / High Density Polyethylene****1 Product Description:**

“EX2 (GM 7750)” is a high density polyethylene with propylene as comonomer. It is a medium molar mass with a narrow molar mass distribution. Stabilization: Ca-Stearate, Irganox1010, Irgafos168.

**2 Applications:**

- Production of monofilaments with high tensile strength.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	2.5 ± 0.4
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	27 ± 3
3	FRR21.6/5	-----	-----	10.5 ± 1
4	Density	g/cm <sup>3</sup>	ISO 1183	0.9560 ±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	≥ 5
6	Gel Number	-----	Internal Method	≤ 5
7	Gel Size	µm	Internal Method	≤ 150

Typical properties:  
These are not to be construed as specifications

**HDPE EX3 / High Density Polyethylene****1 Product Description:**

“EX3” is a natural colored high density polyethylene with butene-1 as comonomer. The product is classified as PE100 and shows good stress crack resistance properties (ESCR) combined with good impact strength.  
Stabilization: Ca-Stearate, Zn-Stearate, Irganox1010, Irgafos168.

**2 Applications:**

- Food Grade.
- Pipe Extrusion PE100 Class.
- Pressure pipe.
- Drinking water and gas pipes.
- Discharge pipes.
- Sewer pipes and their fittings.
- For injection moulded and other fittings.
- Sheets.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	0.45 ± 0.05
2	MFI (190 °C/21.6 Kg)	g/10min	ISO 1133	12.0 ± 3.0
3	FRR21.6/5	----	-----	28 ± 4
4	Density	g/cm <sup>3</sup>	ISO 1183	0.945 ± 0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	>12
6	Pipe Evaluation Hydrostatic Strength (80 °C,5N/mm <sup>2</sup> )	Hours	DIN 8074 DIN 8075 ISO 1167	1000 min.

Typical properties:  
These are not to be construed as specifications

**HDPE EX4 (GM 9455F) / High Density Polyethylene****1 Product Description:**

“EX4 (GM 9455F)” is a high density polyethylene with Butene -1 as comonomer. It is high molar mass for blown film with very high stiffness and good tenacity.  
Stabilization: Ca-Stearate, Zn-Stearate, Irgafos168.

**2 Applications:**

- Paper like film suitable wrapping.
- Counter bags and carrier bags.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	0.28 ± 0.07
2	MFI (190 °C/21.6 Kg)	g/10min	ISO 1133	8 ± 2
3	FRR21.6/5	----	-----	29
4	Density	g/cm <sup>3</sup>	ISO 1183	0.956 ± 0.002
5	Gel Number	----	Internal Method	≤ 3
6	Gel Size	µm	Internal Method	≤ 120

Typical properties:  
These are not to be construed as specifications

**HDPE EX5 (GM 9450 F) / High Density Polyethylene****1 Product Description:**

“EX5 (GM 9450F)” is a high Density polyethylene with Butene-1 as comonomer. It is high molar mass for blown film with in comparison to EX4 lower stiffness and increased tenacity. The product has good toughness, low gel level and good tear strength. Stabilization: Ca-Stearate, Zn-Stearate, Irgafos168.

**2 Applications:**

- Food Grade.
- Blown film with paper like quality.
- Suitable for counter bags.
- Carrier bags.
- Wrapping films and sheets.
- Blending partner.

No.	Property	Units	Test Method	Value
1	MFR (190 °C /5Kg)	g/10min	ISO 1133	0.28 ± 0.07
2	MFR (190 °C/21.6 Kg)	g/10min	ISO 1133	8.0 ± 2.0
3	FRR5/21.6/5	-----	-----	30 ± 4
4	Density	g/cm <sup>3</sup>	ISO 1183	0.949 ±0.002
5	Gel Number	-----	Internal Method	≤ 3
6	Gel Size	µm	Internal Method	≤ 120

Typical properties:  
These are not to be construed as specifications

**HDPE I1 (GA 7260) / High Density Polyethylene****1 Product Description:**

“I1 (GA 7260)” is a high density polyethylene with propylene as comonomer. It is very easy flowing, high density, hardness and stiffness, largely warpage free, for mass product articles in rapid shot frequency. Stabilization: Ca-Stearate, MgO, Irganox1010, UMV 13.

**2 Applications:**

- Lightweight household.
- Disposable articles.
- Large moulding and complicated parts where high impact strength and stress cracking resistance (ESCR) are not demanded.

No.	Property	Units	Test Method	Value
1	MFI (190 °C/2.16 Kg)	g/10min	ISO 1133	17 ± 3
2	MFI (190 °C/5Kg)	g/10min	ISO 1133	52 ± 8
3	FRR5/2.16	-----	-----	3 ± 0.8
4	Density	g/cm <sup>3</sup>	ISO 1183	0.957 ±0.002
5	Notched Impact Strength	MJ/mm <sup>2</sup>		2

Typical properties:  
These are not to be construed as specifications

**HDPE I2 (GB 7250) / High Density Polyethylene****1 Product Description:**

“I2 (GB 7250)” is a high density polyethylene with propylene as comonomer. It is very easy flowing, low warpage, less hard and stiff than I1. Stabilization: Ca-Stearate, Irganox1010.

**2 Applications:**

- Household articles.
- Closures/seals.
- Packaging.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /2.16Kg)	g/10min	ISO 1133	10 ± 1.4
2	MFI (190 °C/5 Kg)	g/10min	ISO 1133	28 ± 4
3	FRR5/2.16	-----	-----	2.8 ± 0.7
4	Density	g/cm <sup>3</sup>	ISO 1183	0.950 ±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	3

Typical properties:  
These are not to be construed as specifications

**HDPE I3 (GC 7260) / High Density Polyethylene****1 Product Description:**

“I3 (GC 7260)” is a high density polyethylene with propylene as comonomer. The product has good impact strength, good stress cracking resistance (ESCR), low warping and good flow ability as well as high density, hardness and stiffness. Stabilization: Ca-Stearate, Irganox1010.

**2 Applications:**

- Food Grade.
- Transport and stacking carts.
- Particularly bottle crates.
- Engineering parts.
- Closures.

No.	Property	Units	Test Method	Value
1	MFR (190 °C /2.16Kg)	g/10min	ISO 1133	8.0 ± 1.0
2	MFR (190 °C/5 Kg)	g/10min	ISO 1133	23 ± 3
3	FRR5/2.16	-----	-----	2.8 ± 0.6
4	Density	g/cm <sup>3</sup>	ISO 1183	0.957 ±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	3.0

Typical properties:  
These are not to be construed as specifications

**HDPE I4 (GD 7255) / High Density Polyethylene****1 Product Description:**

“I4 (GD 7255)” is a high density polyethylene with propylene as comonomer. It has high impact strength and low warping tendency.  
Stabilization: Ca-Stearate, Irganox1010, Irgafos168

**2 Applications:**

- For thick walled, highly steered transport containers e.g. refuse bins and fish crates.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /2.16Kg)	g/10min	ISO 1133	4.0 ± 0.7
2	MFI (190 °C/5 Kg)	g/10min	ISO 1133	11 ± 2
3	FRR5/2.16	-----	-----	2.8 ± 0.9
4	Density	g/cm <sup>3</sup>	ISO 1183	0.954 ±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	4

Typical properties:  
These are not to be construed as specifications

**HDPE BL2 (GF 4750) / High Density Polyethylene****1 Product Description:**

“BL2 (GF 4750)” as a high density polyethylene with Butene-1 as comonomer. It is high impact strength and slightly lower stiffness than BL3, high stress cracking resistance (ESCR) even in contact with surfactants.  
Stabilization: Ca-Stearate, Irganox1010, Irgafos168

**2 Applications:**

- Disinfectant bottles up to 2 liters.
- Containers up to 10 liters.
- Petrol cans up to 5 liters.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	1.2± 0.3
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	23±4
3	FRR21.6/5	-----	-----	19
4	Density	g/cm <sup>3</sup>	ISO 1183	0.946±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	10

Typical properties:  
These are not to be construed as specifications

**HDPE BL3 (GF 4760) / High Density Polyethylene****1 Product Description:**

“BL3 (GF 4760)” is a high density polyethylene with Butene-1 as comonomer. The product is high density and high stiffness, good flow ability and impact strength and good stress cracking resistance (ESCR).  
Stabilization: Ca-Stearate, Irganox1010, Irgafos168

**2 Applications:**

- Food Grade.
- Containers with capacities ranging from a few ml up to 10 liters.
- Production of sheets for thermoforming.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	1.2± 0.3
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	23±4
3	FRR21.6/5	-----	-----	19
4	Density	g/cm <sup>3</sup>	ISO 1183	0.954±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO179/1eA	9

Typical properties:  
These are not to be construed as specifications

**HDPE BL4 (GM 8255) / High Density Polyethylene****1 Product Description:**

“BL4 (GM 8255)” is a high density polyethylene with Butene-1 as comonomer. It is a high molar mass, easily process able, High stiffness and impact good stress cracking resistance (ESCR) and even good moulding surface finish.  
Stabilization: Ca-Stearate, Irganox1010, Irgafos168

**2 Applications:**

- General purpose grade for containers from 1 liter to about 500 liters capacity.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	0.35± 0.06
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	8.5±2.0
3	FRR21.6/5	-----	-----	24
4	Density	g/cm <sup>3</sup>	ISO 1183	0.952±0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	25

Typical properties:  
These are not to be construed as specifications

**HDPE BL5 (GM 7746) / High Density Polyethylene****1 Product Description:**

“BL5 (GM 7746)” is a high density polyethylene with Butene-1 as comonomer. It has a high molar mass, very good impact strength and optimum stress cracking resistance (ESCR).

Stabilization: Ca-Stearate, Irganox1010, Irgafos168

**2 Applications:**

- Large container above 5 liters capacity e.g. petrol tanks.
- For manufacture of semi-finished products.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	0.2 ± 0.04
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	4.0 ± 0.4
3	FRR21.6/5	-----	-----	20
4	Density	g/cm <sup>3</sup>	ISO 1183	0.943 ± 0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	25

Typical properties:  
These are not to be construed as specifications

**HDPE BL6 (GM 7255) / High Density Polyethylene****1 Product Description:**

“BL6 (GM 7255)” is a high density polyethylene with Butene-1 as comonomer. It is a high molar mass material with very good impact strength and stiffness and good stress cracking resistance (ESCR) and even good moulding surface finish.

Stabilization: Ca-Stearate, Irganox1010, Irgafos168, HOE Wax PED 191.

**2 Applications:**

- For large containers above 5 liters capacity for manufacture of semi-finished products.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	0.12 ± 0.02
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	2.7 ± 0.4
3	FRR21.6/5	-----	-----	23
4	Density	g/cm <sup>3</sup>	ISO 1183	0.952 ± 0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	42

Typical properties:  
These are not to be construed as specifications



**HDPE BL7 (GM 6255) / High Density Polyethylene****1 Product Description:**

“BL7 (GM 6255)” is a high density polyethylene with Butene-1 as comonomer. It is a special grade for particularly high requirements like low temperature impact strength and stacking, good stress cracking resistance (ESCR).  
Stabilization: Ca-Stearate, Irganox1010, Irgafos168, HOE Wax PED 191.

**2 Applications:**

- For large containers e.g. ring drums with 220 liters capacity.

**HDPE BL8 (GM 7745) / High Density Polyethylene****1 Product Description:**

“BL8 (GM 7745)” is a high density polyethylene with Butene-1 as comonomer. It is a special grade.  
Stabilization: Ca-Stearate, Irganox1010, Irgafos168, Tinevin326, Tinevin622.

**2 Applications:**

- For heating oil strong tanks.
- Large containers for various products.

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	≤ 0.1
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	2.2 ± 0.2
3	Density	g/cm <sup>3</sup>	ISO 1183	0.950 ± 0.002
4	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	≥ 45

Typical properties:  
These are not to be construed as specifications

No.	Property	Units	Test Method	Value
1	MFI (190 °C /5Kg)	g/10min	ISO 1133	0.31 ± 0.04
2	MFI (190 °C /21.6 Kg)	g/10min	ISO 1133	7.5 ± 1.5
3	FRR21.6/5	-----	-----	24
4	Density	g/cm <sup>3</sup>	ISO 1183	0.944 ± 0.002
5	Notched Impact Strength	mJ/mm <sup>2</sup>	ISO 179/1eA	19

Typical properties:  
These are not to be construed as specifications

Amir Kabir Petrochemical Company



**LDPE** AKPC  
Amir Kabir Petrochemical Co.



## LDPE 1800 S

### 1 Product Description:

Typical application include caps & closures, engineering parts and leisure & sports equipment.

### 2 Applications:

- Caps & closures
- Sports
- Leisure and Toys

### 3 Processing Method:

- Injection Moulding

### 4 Features:

Fast cycle (Production), Low Density, Good Flexibility, Good Processability

No.	Property	Value	Units	Test Method
1	Density	0.917	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C/2.16Kg)	20.0	g/10 min	ISO 1133
3	Tensile Modulus	150	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	8.0	MPa	ISO 527-1, -2
5	Vicat Softening Temperature	80	°C	ISO 306/A50

Typical properties:  
These are not to be construed as specifications

## LDPE 2420 D

### 1 Product Description:

Lupolen 2420 D is a non-additivated, low density Polyethylene. It is delivered in pellet form.

### 2 Applications:

- Food Grade
- Bags & Pouches
- Bottles for Consumer Goods
- Shrink Film
- Blown Film
- Film

### 3 Processing Method:

- Blown Film
- Injection Moulding
- Extrusion Blow Moulding

### 4 Features:

Good Processability, Good Tear strength, Good Toughness

No.	Property	Value	Units	Test Method
1	Density	0.923	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	0.25	g/10 min	ISO 1133
3	Tensile Modulus	240	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	10	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	27/20	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	200/500	%	ISO 527-1, -3
7	Dart Drop Impact (50µ Blown Film)	250	g	ASTM D 1709
8	Vicat Softening Temperature	94	°C	ISO 306/A50
9	Haze (50µ)	<14	%	ASTM D 1003
10	Gloss (60 °, 50µ)	>50	-	ASTM D 2457
11	Shore Hardness (Shore D)	48	-	ISO 868

Typical properties:  
These are not to be construed as specifications



## LDPE 2420 F

### 1 Product Description:

Lupolen 2420 F is a non-additivated, low density Polyethylene. It is delivered in pellet form.

### 2 Applications:

- Food Grade
- Bags & Pouches
- Blow Moulding Application
- Shrink Film
- Blown Film
- Film

### 3 Processing Method:

- Blown Film
- Injection Moulding
- Extrusion Blow Moulding

### 4 Features:

Good Heat Seal, Optical, Good Processability, Good Melt Strength

No.	Property	Value	Units	Test Method
1	Density	0.923	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	0.75	g/10 min	ISO 1133
3	Tensile Modulus	260	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	11	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	26/20	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	300/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	150	g	ASTM D 1709
8	Vicat Softening Temperature	96	°C	ISO 306/A50
9	Haze (50μ)	<8.0	%	ASTM D 1003
10	Gloss (60°, 50μ)	>90	-	ASTM D 2457
11	Shore Hardness (Shore D)	48	-	ISO 868

Typical properties:  
These are not to be construed as specifications

## LDPE 2420 H

### 1 Product Description:

Lupolen 2420 H is a non-additivated, low density Polyethylene. It is delivered in pellet form.

### 2 Applications:

- Food Grade
- Bags & Pouches
- Film
- Shrink Film
- Blown Film
- Cast Film

### 3 Processing Method:

- Cast Film
- Blown Film

### 4 Features:

Good Heat Seal, Optical, Good Processability

No.	Property	Value	Units	Test Method
1	Density	0.924	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	1.9	g/10 min	ISO 1133
3	Tensile Modulus	260	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	11	MPa	ISO 527-1, -2
5	Tensile Strength at Break MD/TD	26/18	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	250/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	110	g	ASTM D 1709
8	Vicat Softening Temperature	94	°C	ISO 306/A50
9	Haze (50μ)	<8.0	%	ASTM D 1003
10	Gloss (60°, 50μ)	>100	-	ASTM D 2457
11	Shore Hardness (Shore D)	48	-	ISO 868

Typical properties:  
These are not to be construed as specifications



## LDPE 2420 K

### 1 Product Description:

Lupolen 2420 K is a non-additivated, low density Polyethylene. It is delivered in pellet form.

### 2 Applications:

- Food Grade
- Coatings
- Protective
- Shrink Film
- Surface Protection Film

### 3 Processing Method:

- Blown Film
- Cast Film
- Extrusion Coating
- Injection Moulding

### 4 Features:

Good Heat Seal, Good Optical Processability, Good Processability

No.	Property	Value	Units	Test Method
1	Density	0.924	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	4	g/10 min	ISO 1133
3	Tensile Modulus	260	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	11	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	22/17	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	300/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	100	g	ASTM D 1709
8	Vicat Softening Temperature	92	°C	ISO 306/A50
9	Haze (50μ)	< 8	%	ASTM D 1003
10	Gloss (60 °, 50μ)	>105	-	ASTM D 2457

Typical properties:  
These are not to be construed as specifications

## LDPE 2426 F

### 1 Product Description:

Lupolen 2426 F is an additivated, low density Polyethylene. It contains slip and anti-blocking agent. It is delivered in pellet form.

### 2 Applications:

- Cast & Blown Film
- Bags & Pouches
- Film & Shrink Film
- Food Packaging Film
- Surface Protection Film

### 3 Processing Method:

- Blown Film

### 4 Features:

Unspecified Antiblocking, Optical, Good Processability, Unspecified Slip, Low Friction

No.	Property	Value	Units	Test Method
1	Density	0.924	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	0.75	g/10 min	ISO 1133
3	Tensile Modulus	260	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	11	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	26/20	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	300/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	150	g	ASTM D 1709
8	Vicat Softening Temperature	96	°C	ISO 306/A50
9	Haze (50μ)	< 9.0	%	ASTM D 1003
10	Gloss (60 °, 50μ)	> 90	-	ASTM D 2457

Typical properties:  
These are not to be construed as specifications



## LDPE 2426 H

### 1 Product Description:

Lupolen 2426 H is a non-additivated, low density Polyethylene. It contains slip and anti-blocking agent. It is delivered in pellet form.

### 2 Applications:

- Cast Film
- Bags & Pouches
- Film & Shrink Film
- Blown Film
- Surface Protection Film

### 3 Processing Method:

- Cast Film
- Blown Film

### 4 Features:

Unspecified Antiblocking, Optical, Good Processability, Unspecified Slip, Low Friction

No.	Property	Value	Units	Test Method
1	Density	0.925	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	1.9	g/10 min	ISO 1133
3	Tensile Modulus	260	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	11	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	26/18	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	250/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	110	g	ASTM D 1709
8	Vicat Softening Temperature	94	°C	ISO 306/A50
9	Haze (50μ)	<9.0	%	ASTM D 1003
10	Gloss (60°, 50μ)	>100	-	ASTM D 2457
11	Shore Hardness (Shore D)	48	-	ISO 868

Typical properties:  
These are not to be construed as specifications

## LDPE 2426 K

### 1 Product Description:

Lupolen 2426 K is an additivated, low density Polyethylene. It contains slip and anti-blocking agent. It is delivered in pellet form.

### 2 Applications:

- Cast Film
- Food Packaging Film
- Film and shrink Film
- Blown Film
- Surface Protection Film

### 3 Processing Method:

**3 Features:** Unspecified Antiblocking, Optical, Good Processability, Unspecified Slip, Low Friction

No.	Property	Value	Units	Test Method
1	Density	0.925	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	4	g/10 min	ISO 1133
3	Tensile Modulus	260	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	11	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	22/15	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	300/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	100	g	ASTM D 1709
8	Vicat Softening Temperature	92	°C	ISO 306/A50
9	Haze (50μ)	<9.0	%	ASTM D 1003
10	Gloss (60°, 50μ)	>105	-	ASTM D 2457
11	Shore Hardness (Shore D)	48	-	ISO 868

Typical properties:  
These are not to be construed as specifications



## LDPE 3020 F

### 1 Product Description:

Lupolen 3020 F is a non-additivated, low density Polyethylene with high rigidity, good optical and good chemical resistance. It is delivered in pellet form.

### 2 Applications:

- Bags & Pouches
- Cast & Blown Film
- Film & Shrink Film
- Food Packaging Film
- Surface Protection Film

### 3 Processing Method:

- Blown Film

### 4 Features:

Optical, Good Processability, Good Stiffness

No.	Property	Value	Units	Test Method
1	Density	0.927	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	0.9	g/10 min	ISO 1133
3	Tensile Modulus	300	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	13.0	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	27/19	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	300/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	120	g	ASTM D 1709
8	Vicat Softening Temperature	100	°C	ISO 306/A50
9	Haze (50μ)	< 6.5	%	ASTM D 1003
10	Gloss (60°, 50μ)	>100	-	ASTM D 2457
11	Shore Hardness (Shore D)	51	-	ISO 868

Typical properties:  
These are not to be construed as specifications

## LDPE 3020 H

### 1 Product Description:

Lupolen 3020 H is a non-additivated, low density Polyethylene with high rigidity, good opticals and good chemical resistance. It is delivered in pellet form.

### 2 Applications:

- Cast & Blown Film
- Bags & Pouches
- Film & Shrink Film
- Food Packaging Film
- Surface Protection Film

### 3 Processing Method:

- Cast Film
- Blown Film

### 4 Features:

Good Heat Seal, Optical, Good Processability, Good Stiffness

No.	Property	Value	Units	Test Method
1	Density	0.927	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	2.0	g/10 min	ISO 1133
3	Tensile Modulus	300	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	13	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	25/18	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	350/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	110	g	ASTM D 1709
8	Vicat Softening Temperature	100	°C	ISO 306/A50
9	Haze (50μ)	< 6.5	%	ASTM D 1003
10	Gloss (60°, 50μ)	>110	-	ASTM D 2457
11	Shore Hardness (Shore D)	51	-	ISO 868

Typical properties:  
These are not to be construed as specifications



## LDPE 3020 K

### 1 Product Description:

Lupolen 3020 K is a non-additivated, low density Polyethylene with high rigidity, good opticals and good chemical resistance. It is delivered in pellet form.

### 2 Applications:

- Cast & Blown Film
- Lamination Film
- Film & Shrink Film
- Food Packaging Film
- Surface Protection Film

### 3 Processing Method:

- Cast Film
- **Blown Film**
- **Injection Moulding**

### 4 Features:

Good Heat Seal, Optical, Good Processability, Good Stiffness

No.	Property	Value	Units	Test Method
1	Density	0.927	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	4.0	g/10 min	ISO 1133
3	Tensile Modulus	300	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	13.0	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	20/15	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	350/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	100	g	ASTM D 1709
8	Vicat Softening Temperature	97	°C	ISO 306/A50
9	Haze (50μ)	< 6.5	%	ASTM D 1003
10	Gloss (60°, 50μ)	>115	-	ASTM D 2457
11	Shore Hardness (Shore D)	51	-	ISO 868

Typical properties:  
These are not to be construed as specifications

## LDPE 3026 H

### 1 Product Description:

Lupolen 3026 H is an additivated, low density Polyethylene with high rigidity, It Contains slip & anti-blocking agent. It is delivered in pellet form.

### 2 Applications:

- Cast & Blown Film
- Bags & Pouches
- Film & Shrink Film
- Food Packaging Film

### 3 Processing Method:

- Cast Film
- **Blown Film**

### 4 Features:

Optical, Good Processability, Unspecified /slip, Low Friction, Good Stiffness

No.	Property	Value	Units	Test Method
1	Density	0.927	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	2.0	g/10 min	ISO 1133
3	Tensile Modulus	300	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	13.0	MPa	ISO 527-1, -2
5	Tensile Strength MD/TD	25/18	MPa	ISO 527-1, -3
6	Tensile Strain at Break MD/TD	350/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	110	g	ASTM D 1709
8	Vicat Softening Temperature	100	°C	ISO 306/A50
9	Haze (50μ)	< 7.0	%	ASTM D 1003
10	Gloss (60°, 50μ)	>110	-	ASTM D 2457
11	Shore Hardness (Shore D)	51	-	ISO 868

Typical properties:  
These are not to be construed as specifications





Amir Kabir Petrochemical Company

## LDPE 3026 K

### 1 Product Description:

Lupolen 3026 K is an additivated, low density Polyethylene with high rigidity. It contains slip & antiblocking agent. It is delivered in pellet form.

### 2 Applications:

- Cast & Blown Film
- Lamination Film
- Film & Shrink Film
- Food Packaging Film
- Surface Protection Film

### 3 Processing Method:

- Cast Film
- **Blown Film**
- **Injection Moulding**

### 4 Features:

Unspecified Antiblocking, Opticals, Good Processability, Unspecified Slip, Low Friction, Good Stiffness.



No.	Property	Value	Units	Test Method
1	Density	0.927	g/cm <sup>3</sup>	ISO 1183
2	Melt flow rate (MFR) (190 °C /2.16Kg)	4.0	g/10 min	ISO 1133
3	Tensile Modulus	300	MPa	ISO 527-1, -2
4	Tensile Stress at Yield	13.0	MPa	ISO 527-1, -2
5	Tensile Strength at Break MD/TD	20/15	MPa	ISO 527-1, -3
6	Tensile Strain MD/TD	350/600	%	ISO 527-1, -3
7	Dart Drop Impact (50μ Blown Film)	100	g	ASTM D 1709
8	Vicat Softening Temperature	97	°C	ISO 306/A50
9	Haze (50μ)	< 6.5	%	ASTM D 1003
10	Gloss (60°, 50μ)	>105	-	ASTM D 2457
11	Shore Hardness (Shore D)	51	-	ISO 868

Typical properties:  
These are not to be construed as specifications

**BD & BUTEN-1 AKPC**  
Amir Kabir Petrochemical Co.



## 1,3 -Butadiene Product

## BUTENE-1 Product

Property	Units	Test Method	Value
1, 3-Buadiene	% Wt	ASTM D2593	>99.5
Total Acetylen (VAC, EAC, MAC)	Wt ppm	ASTM D2593	<40
Vinyl Acetylene	Wt ppm	ASTM D2593	<14
Carbonyl	Wt ppm	ASTM D4423	<20
Butadiene Dimer	% Wt	ASTM D2426	<0.1
Peroxide	Wt ppm	ASTM D5799	<5
Non Volatile	% Wt	ASTM D1025	<0.1
Inhibitor TBC	Wt ppm	ASTM D1157	40-150
Total Sulfur	Wt ppm	ASTM D6667	<5
Oxygen	% Mol	O <sub>2</sub> Analyzer (Teledyne)	<0.2
Water	Wt ppm	ASTM D2029	<300

Typical properties:  
These are not to be construed as specifications

Property	Units	Test Method	Value
Butene -1	% Wt	GC Analysis	>99.0
1, 3-Buadiene	Wt ppm	GC Analysis	<10
N-Butane	% Wt	GC Analysis	
ISO-Butane	% Wt	GC Analysis	<1
ISO-Butylene	% Wt	GC Analysis	
Propadiene	Wt ppm	GC Analysis	
Total Acetylene	Wt ppm	GC Analysis	<5
Water	Wt ppm	ASTM D2029	<4
Oxygen	Wt ppm	O <sub>2</sub> Analyzer (Teledyne)	<1
Carbonyl Monoxide	Wt ppm	GC Analysis	<1
Carbonyl Dioxide	Wt ppm	GC Analysis	<1
Total Sulfur	Wt ppm	ASTM D6667	<1
Ether	Wt ppm	GC Analysis	<2
Methanol	Wt ppm	GC Analysis	<5
MTBE	Wt ppm	GC Analysis	<5

Typical properties:  
These are not to be construed as specifications

Amir Kabir Petrochemical Company



**OLEFIN** AKPC  
Amir Kabir Petrochemical Co.



## Ethylene Product

## Propylene Product

Property	Units	Test Method	Value
Ethylene	% Vol	GC Analysis	>99.95 min
Hydrogen	Vol ppm	GC Analysis	<5
Methane + Ethane	Vol ppm	GC Analysis	<500
Acetylene	Vol ppm	GC Analysis	<1
Propylene + Higher	Vol ppm	GC Analysis	<10
Carbon Monoxide	Vol ppm	GC Analysis	<0.2
Carbon Dioxide	Vol ppm	GC Analysis	<1
Oxygen	Vol ppm	O <sub>2</sub> Analyzer (Teledyne)	<1
Water	Vol ppm	ASTM D2029	<1
Sulphur as H <sub>2</sub> S	Vol ppm	ASTM D6228	<1
Methanol	Vol ppm	GC Analysis	<1
Oxygenated organics	Vol ppm	GC Analysis	<1
Carbonyl Sulphide	Vol ppm	ASTM D6228	<0.1

Typical properties:  
These are not to be construed as specifications

Property	Units	Test Method	Value
Propylene	% Vol	GC Analysis	>99.8
Propylene and Heavier	Vol ppm	GC Analysis	Balance
Methane	Vol ppm	GC Analysis	<10
Ethane	Vol ppm	GC Analysis	<20
Hydrogen	Vol ppm	GC Analysis	<5
Ethylene	Vol ppm	GC Analysis	<1
Acetylene	Vol ppm	GC Analysis	<1
C4 Hydrocarbon	Vol ppm	GC Analysis	<1
Methyle Acetylene	Vol ppm	GC Analysis	<1
Propadiene	Vol ppm	GC Analysis	<1
Carbon Monoxide	Vol ppm	GC Analysis	<0.2
Carbon Dioxide	Vol ppm	GC Analysis	<2
Water	Vol ppm	ASTM D2029	<5
Total Sulfur	Vol ppm	ASTM D6667	<2
Methanol + Ketones	Vol ppm	GC Analysis	<5
Oxygen	Vol ppm	O <sub>2</sub> Analyzer (Teledyne)	<2

Typical properties:  
These are not to be construed as specifications



## Hydrogen Product

## CFO Product

Property	Units	Test Method	Value
Hydrogen	% Vol	GC Analysis	>99.9
Nitrogen	% Vol	GC Analysis	<0.1
Methane	% Vol	GC Analysis	<0.1
Other Hydrocarbons	Vol ppm	GC Analysis	<10
Acetylene	Vol ppm	GC Analysis	<1
Oxygen	Vol ppm	O <sub>2</sub> Analyzer (Teledyne)	<0.5
Total Combined Sulphur	Wt ppm	ASTM D6667	<1
Water	Vol ppm	ASTM D2029	<0.5
Total Combined Nitrogen	Vol ppm	ASTM D4629	<1
Carbon Monoxide	Vol ppm	GC Analysis	<5
Carbon Dioxide	Vol ppm	GC Analysis	<1

Typical properties:  
These are not to be construed as specifications

Property	Units	Test Method	Value
Sulfur	Wt%	D - 5453	<3.7
Flash Point	°C	D - 93	≤100
Pour Point	°C	D - 97	To be reported
Viscosity at 100°C	Cst	D - 88	To be reported
Specific Gravity	-----	D - 1250	0.98 - 1.06

Typical properties:  
These are not to be construed as specifications



Amir Kabir Petrochemical Company

## Pyrolysis Gasoline Product



OLEFINE

Property	Units	Method (ASTM)	Expected
Density at 15.6 °C (60 °F)	gr/cm <sup>3</sup>	ASTM D-4052	0.9 Max.
R.V.P	Psi	ASTM D-323	12 Max.
Total Sulfur	ppm	ASTM D-5453	300 Max.
IBP	°C	ASTM D-86	30 Min.
5 PCT Vol Recovered	°C	ASTM D-86	45 Min.
95 PCT Vol Recovered	°C	ASTM D-86	200 Max.
FBP	°C	ASTM D-86	210 Max.
Paraffins	Wt%	GC Analysis	4 Max.
Olefins	Wt%	GC Analysis	30 Max.
Naphthenes	Wt%	GC Analysis	1.2 Max.
Aromatics	Wt%	GC Analysis	60 Min.
Others	Wt%	GC Analysis	20 Max.
Benzen Content	Wt%	GC Analysis	30 Min.
Gum	mg/100ml	ASTM D-381	200 Max.

Typical properties:  
These are not to be construed as specifications

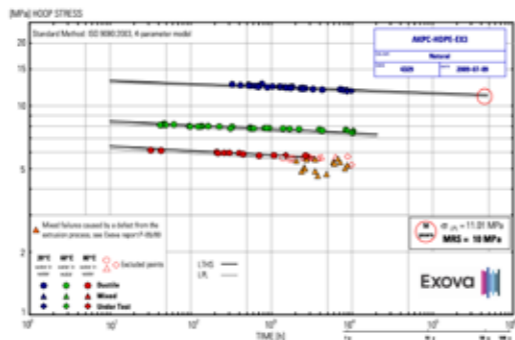
**CERTIFICATES AKPC**  
Amir Kabir Petrochemical Co.

**AKPC**

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### CLIENT: Amir Kabir Petrochemical Company REGRESSION ANALYSIS ACCORDING TO ISO 9080 OF THE PE PIPE GRADE AKPC-HDPE-EX3 NATURAL



#### INTRODUCTION

Exova Polymer (formerly Bodycote Polymer) offers accredited testing and evaluation according to ISO 9080, i.e. hydrostatic pressure testing followed by evaluation of the long-term hydrostatic strength and MRS-classification according to ISO 12162.

#### TASK

The aim was to evaluate the compound according to ISO 9080 in order to obtain a MRS-classification according to ISO 12162 of the PE pipe grade AKPC-HDPE-EX3 Natural from Amir Kabir Petrochemical Company

#### RESULTS OBTAINED

The evaluation was performed in accordance with ISO 9080:2003. The 4-parameter model gave the best fit. More information can be found in Exova Report P-09/81.

#### EXTRAPOLATED STRENGTH VALUES

Temp (°C)	Time (h)	$\sigma_{10h}$ (MPa)	$\sigma_{1ms}$ (MPa)
20	50	11.011	11.332
60	2.34	7.085	7.331
80	0.39	5.452	5.665

#### CLASSIFICATION

MRS = 10 MPa

#### CONTACT

Phone +46 155 22 14 76  
Fax +46 155 26 31 25  
Email info@bodycotepolymer.com  
Web www.exova.com  
© Bodycote Testing Group 2007 - Ref: EP-REV 01-07/08



Validity: until 31/12/2022

20<sup>th</sup> December 2021

To whom it may concern

#### REACH Certificate of Compliance – OR Confirmation

In compliance with Article 8 of Regulation (EC) 1907/2006 of 18th December 2006 of the European Parliament and of the Council on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), we ChemSafe S.r.l., located at Via Ribes 5, 10010 Colletterto Giacosa (TO), Italy, hereby confirm that the Non-EU manufacturer:

**Amir Kabir Petrochemical Company**

Having its principal offices located at

No.21, Nafisi St. (23rd East), Southern Sarrafha Ave, Darya BLVD, Saadat Abad, Tehran, IRAN

Has appointed **ChemSafe S.r.l.** as its Only Representative for REACH compliance of the following substance:

Substance name	EC n°	CAS n°	Registration No.	Tonnage (ton/y)
1-Butene	203-449-2	106-98-9	01-2119456615-34-0068	100-1.000

Please note that the registration only covers the EU customers identified by **Amir Kabir Petrochemical Company** and whose details are communicated to **ChemSafe S.r.l.** Therefore, if you are a customer of **Amir Kabir Petrochemical Company** and you wish to be covered by our registration, please ensure that they pass your details to us.

To fully comply with REACH, EU customers shall apply for tonnage certificate to Amir Kabir Petrochemical Company when importing products to EU.

This REACH compliance certificate is valid until 31 December 2022 and it is annually renewable.

Signature (the Only representative)

**Dr. Antonio Conto**  
Managing Director  
**CHEMSAFE S.r.l.**

#### CHEMSAFE Srl

Sede Legale: via Ribes 5, 10010 Colletterto Giacosa (TO)  
Sede Operativa: via Lugnacco 4, 10010 Parella (TO)  
P. I. 08274890014  
Tel: 0039 0125 538888, Fax: 0039 0125 538475 E-mail: chemsafe@chemsafe-consulting.com



Validity: until 31/12/2022

20<sup>th</sup> December 2021

To whom it may concern

**REACH Certificate of Compliance – OR Confirmation**

In compliance with Article 8 of Regulation (EC) 1907/2006 of 18th December 2006 of the European Parliament and of the Council on Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), we ChemSafe S.r.l., located at Via Ribes 5, 10010 Colletterto Giacosa (TO), Italy, hereby confirm that the Non-EU manufacturer:

**Amir Kabir Petrochemical Company**

Having its principal offices located at

No.21, Nafisi St. (23rd East), Southern Sarrafha Ave, Darya BLVD, Saadat Abad, Tehran, IRAN

Has appointed **ChemSafe S.r.l.** as its Only Representative for REACH compliance of the following substance:

Substance name	EC n°	CAS n°	Registration No.	Tonnage (ton/y)
Ethylene	200-815-3	74-85-1	01-2119462827-27-0160	Over 1,000

Please note that the registration only covers the EU customers identified by **Amir Kabir Petrochemical Company** and whose details are communicated to **ChemSafe S.r.l.** Therefore, if you are a customer of **Amir Kabir Petrochemical Company** and you wish to be covered by our registration, please ensure that they pass your details to us.

To fully comply with REACH, EU customers shall apply for tonnage certificate to Amir Kabir Petrochemical Company when importing products to EU.

This REACH compliance certificate is valid until 31 December 2022 and it is annually renewable.

Signature (the Only representative)

**Dr. Antonio Conto**  
Managing Director  
**CHEMSAFE S.r.l.**

CHEMSAFE Srl

Sede Legale: via Ribes 5, 10010 Colletterto Giacosa (TO)  
Sede Operativa: via Lugnacco 4, 10010 Parella (TO)

P. I. 08274890014  
Tel: 0039 0125 538888, Fax: 0039 0125 539475 E-mail: [chemsafe@chemsafe-corporation.com](mailto:chemsafe@chemsafe-corporation.com)

**SGS (Iran) Ltd.**  
No. 47, Ahmad Ghasir St., Argentina Sq.  
Tehran –Iran P.O Box 14155-4999  
Tel +98 (21)88736554  
Fax +98 (21) 88731808

**Certificate No. 650201/03078**  
**Certificate of Conformity with the requirements of EU Regulation 10/2011(EU) 2020/1245,**

Product Name: LDPE Diade LD206AA Lot No: 400427  
Manufacturer Supplier: Amir Kabir Petrochemical Co. No. 21 East Ahmad NAFISI St. South Sarrafha Darya Blvd. Saadat Abad, Tehran, Iran.  
The above product has been tested for overall migration with the simulants and test conditions listed below. The test simulants and test conditions are those defined in EC directive 1935/2004 /EC (1245-2015) EU.  
Under the transitional arrangements contained in EU regulation 10/2011(EU) 2020/1245, these conditions may continue to be used to demonstrate safety of food contact plastics until 23 Sep 2022.

Food Simulants	Duration	Temp
Water	10 days	40° C±2
10% Ethanol	10 days	40° C±2
3% Acetic Acid	10 days	40° C±2
20% ethanol	10 days	40° C±2
95% ethanol	10 days	40° C±2
Acetone	2 days	20° C±1
3% Acetic Acid	10 days	60° C±2
95% ethanol	10 days	60° C±2

The overall migration results obtained were found to be below the overall migration limits defined in EU regulation 10/2011(EU) 2020/1245.  
Additionally SGS have carried out a document review of the formulation of the above resin. All monomers and additives contained in the formulation are approved for use in food contact plastics with out restrictions under EU regulation 10/2011 (EU) 2020/1245 as amended.  
The above product is in compliance with ultimate limits in force from 30 June 2001 specified in EC directive 94/62/EC. The packaging and packaging waste directive for the combined levels of lead, cadmium, mercury and hexavalent chromium. The limit specified in EC directive 94/62/EC for the combined total of lead, cadmium, mercury and hexavalent chromium is as follows:  
100 mg/kg from 30 June 2001.  
Users are reminded that EU regulation 10/2011(EU) 2020/1245, relates to finished articles/ materials manufactured from plastics. Users of the above products are therefore responsible for ensuring that their finished products comply with the overall migration limit and the specific migration limit mentioned above, by conducting appropriate tests on their finished products. User should pay particular attention to the food types and temperature conditions under which the finished product will be used and conduct appropriate migration tests using conditions selected using EU regulation 10/2011(EU) 2020/1245. Furthermore users should also ensure that their finished products do not bring about an unacceptable change in the taste or odor of food products and comply with the other requirements specified in EC regulation 1935/2004.  
This document is issued by the Company under its General Conditions of Service printed overleaf. Attention is drawn to the limitation of liability, indemnification and limit-of-test clauses defined therein.  
Any other holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute advice as a basis for decision making or for any other action. Any unauthorized alteration, forgery, or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.  
The sample(s) to which the findings recorded herein (the "findings") were submitted were sent and / or provided by the Client or by a third party acting at the Client's direction. The findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the sample(s). The Company accepts no liability with regard to the origin or source from which the sample(s) were sent to be extracted.

Signed & dated in Tehran-IRAN / Nov 29, 2021  
AG 21-04470L01  
For and behalf of SGS (IRAN)

**SGS (Iran) Ltd.**  
H & R (Health and Nutrition)  
No. 1

SGSPAPER  
20415638





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No. 47, Ahmad Ghasir St., Argentina Sq.
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Fax +98 (21) 88731808



Certificate No. 650201/03080

Certificate of Conformity with the requirements of EU Regulation 10/2011(EU) 2020/1245,

Product Name: LDPE Grade 2420 D Lot No. 00505190
Manufacturer Supplier: Amir Kabir Petrochemical Co. No. 21 East Ahmad NAFISI St. South Sarafshar Darya Blvd - Saadat Akad, Tehran, Iran.
The above product has been tested for overall migration with the simulants and test conditions listed below. The food simulants and test conditions are those defined in EC directive 1935/2004, JEC #1249-2,2011/05/EU. Under the transitional arrangements contained in EU regulation 10/2011(EU) 2020/1245, these conditions may continue to be used to demonstrate safety of food contact plastics until 23 Sep 2022.

Table with 3 columns: Fluid Simulants, Duration, Temp. Rows include Water, 10% Ethanol, 3% Acetic Acid, 20% ethanol, 30% ethanol, Propylene, 7% Acetic Acid, 50% ethanol.

The overall migration results obtained were found to be below the overall migration limits defined in EU regulation 10/2011 (EU) 2020/1245.
Additionally SGS have carried out a document review of the formulation of the above resin. All monomers and additives contained in the formulation are approved for use in food contact plastics with out restrictions under EU regulation 10/2011 (EU) 2020/1245 as amended.
The above product is in compliance with ultimate limits from 30 June 2001 specified in EC directive 94/62/EC. The packaging and packaging waste directive for the combined levels of lead, cadmium, mercury and hexavalent chromium. The limit specified in EC directive 94/62/EC for the combined total of lead, cadmium, mercury and hexavalent chromium is as follows:
100 mg/kg from 30 June 2001.
Users are reminded that EU regulation 10/2011(EU) 2020/1245, relates to finished articles/ materials manufactured from plastics. Users of the above products are there fore responsible for ensuring that their finished products comply with the overall migration limit and the specific migration limit mentioned above, by conducting appropriate tests on their finished products. User should pay particular attention to the food types and temperature conditions under which the finished product will be used and conduct appropriate migration tests using conditions selected using EU regulation 10/2011(EU) 2020/1245, furthermore users should also ensure that their finished products do not bring about an unacceptable change in the taste or odor of food products and comply with the other requirements specified in EC regulation 1935/2004.
This document is issued by the Company under its General Conditions of Service printed overleaf. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.
Any other holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute a claim to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law.
The samples to which the findings recorded herein (the "Findings") were analyzed drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the samples. The Company accepts no liability with regard to the origin or source from which the samples were analyzed/extracted.

Signed & dated in Tehran-IRAN / Nov 29, 2021 AG 21-04476L01 For and behalf of SGS (IRAN)

SGS (Iran) Ltd. Signature and Stamp

This document is issued, on the Client's behalf, by the Company under its General Conditions of Service printed overleaf. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

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SGSPAPER 20415634

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Certificate No. 650201/03081

Certificate of Conformity with the requirements of EU Regulation 10/2011(EU) 2020/1245,

Product Name: LDPE Grade 2420 H Lot No. 00404192
Manufacturer Supplier: Amir Kabir Petrochemical Co. No. 21 East Ahmad NAFISI St. South Sarafshar Darya Blvd - Saadat Akad, Tehran, Iran.
The above product has been tested for overall migration with the simulants and test conditions listed below. The food simulants and test conditions are those defined in EC directive 1935/2004, JEC #1249-2,2011/05/EU. Under the transitional arrangements contained in EU regulation 10/2011(EU) 2020/1245, these conditions may continue to be used to demonstrate safety of food contact plastics until 23 Sep 2022.

Table with 3 columns: Fluid Simulants, Duration, Temp. Rows include Water, 10% Ethanol, 3% Acetic Acid, 20% ethanol, 30% ethanol, Propylene, 7% Acetic Acid, 50% ethanol.

The overall migration results obtained were found to be below the overall migration limits defined in EU regulation 10/2011 (EU) 2020/1245.
Additionally SGS have carried out a document review of the formulation of the above resin. All monomers and additives contained in the formulation are approved for use in food contact plastics with out restrictions under EU regulation 10/2011 (EU) 2020/1245 as amended.
The above product is in compliance with ultimate limits from 30 June 2001 specified in EC directive 94/62/EC. The packaging and packaging waste directive for the combined levels of lead, cadmium, mercury and hexavalent chromium. The limit specified in EC directive 94/62/EC for the combined total of lead, cadmium, mercury and hexavalent chromium is as follows:
100 mg/kg from 30 June 2001.
Users are reminded that EU regulation 10/2011(EU) 2020/1245, relates to finished articles/ materials manufactured from plastics. Users of the above products are there fore responsible for ensuring that their finished products comply with the overall migration limit and the specific migration limit mentioned above, by conducting appropriate tests on their finished products. User should pay particular attention to the food types and temperature conditions under which the finished product will be used and conduct appropriate migration tests using conditions selected using EU regulation 10/2011(EU) 2020/1245, furthermore users should also ensure that their finished products do not bring about an unacceptable change in the taste or odor of food products and comply with the other requirements specified in EC regulation 1935/2004.
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The samples to which the findings recorded herein (the "Findings") were analyzed drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the samples. The Company accepts no liability with regard to the origin or source from which the samples were analyzed/extracted.

Signed & dated in Tehran-IRAN / Nov 29, 2021 AG 21-04476C01 For and behalf of SGS (IRAN)

SGS (Iran) Ltd. Signature and Stamp

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SGSPAPER 20415635



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SGS

Certificate No. 650201/03083

Certificate of Conformity with the requirements of EU Regulation 10/2011(EU) 2020/1245,

Product Name: HDPE Grade EX3 Lot No. 400016
Manufacturer Supplier: Amir Kabir Petro chemical Co. No. 21,East Ahmad NAFISI St. South Sarafra Darya Blvd. Saadati Ahd, Tehran, Iran.
The above product has been tested for overall migration with the simulants and test conditions listed below. The food simulants and test conditions are those defined in EC directive 1935/2004 JEC 81249-2,2011/06/EU. Under the transitional arrangements contained in EU regulation 10/2011(EU) 2020/1245, these conditions may continue to be used to demonstrate safety of food contact plastics until 23 Sep 2022.

Table with 3 columns: Food Simulants, Duration, Temp. Rows include Water, 10% Ethanol, 3% Acetic Acid, 20% ethanol, 95% ethanol, Isooctane, 3% Acetic Acid, 95% ethanol.

The overall migration results obtained were found to be below the overall migration limits defined in EU regulation 10/2011 (EU) 2020/1245.
Additionally SGS have carried out a document review of the formulation of the above resin. All monomers and additives contained in the formulation are approved for use in food contact plastics with our restrictions under EU regulation 10/2011 (EU) 2020/1245 as amended.
The above product is in compliance with ultimate limit in force from 30 June 2001 specified in EC directive 94/62/EC. The packaging and packaging waste directive for the combined levels of lead, cadmium, mercury and hexavalent chromium. The limit specified in EC directive 94/62/EC for the combined total of lead, cadmium, mercury and hexavalent chromium is as follows:
100 mg/kg from 30 June 2001.

Users are reminded that EU regulation 10/2011(EU) 2020/1245, relates to finished article materials manufactured from plastic. Users of the above products are therefore responsible for ensuring that their finished products comply with the overall migration limit and the specific migration limit mentioned above, by conducting appropriate tests on their finished products. User should pay particular attention to the food types and temperature conditions under which the finished product will be used and conduct appropriate migration tests using conditions selected using EU regulation 10/2011(EU) 2020/1245, furthermore users should also ensure that their finished products do not bring about an unacceptable change in the taste or odor of food products and comply with the other requirements specified in EC regulation 1935/2004. This requirement is issued by the Company under its General Conditions of Service printed overall. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.
Any other holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not otherwise confer to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. The samples to which the findings reported herein (the "Findings") relate were drawn and / or provided by the Client or by a third party acting at the Client's direction. The Findings constitute no warranty of the sample's representativeness of any goods and strictly relate to the samples. The Company accepts no liability with regard to the origin or source from which the samples herein said to be extracted.

Signed & dated in Tehran-IRAN / Nov 29, 2021

AG 21-04470L01
For and behalf of SGS (IRAN)

SGS logo and signature of H.N. Ghassemi (Health and Nutrition) No. 1



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Any other holder of this document is advised that information contained herein reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not otherwise confer to a transaction from exercising all their rights and obligations under the transaction documents.

SGSPAPER 20415637



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Tehran -Iran P.O.Box 14155-4999
Tel +98 (21)88736554
Fax +98 (21) 88731808



SGS

Certificate No. 650201/03082

Certificate of Conformity with the requirements of EU Regulation 10/2011(EU) 2020/1245,

Product Name: HDPE Grade EX3 Lot No.400016
Manufacturer Supplier: Amir Kabir Petro chemical Co. No. 21,East Ahmad NAFISI St. South Sarafra Darya Blvd. Saadati Ahd, Tehran, Iran.
The above product has been tested for overall migration with the simulants and test conditions listed below. The food simulants and test conditions are those defined in EC directive 1935/2004 JEC 81249-2,2011/06/EU. Under the transitional arrangements contained in EU regulation 10/2011(EU) 2020/1245, these conditions may continue to be used to demonstrate safety of food contact plastics until 23 Sep 2022.

Table with 3 columns: Food Simulants, Duration, Temp. Rows include Water, 10% Ethanol, 3% Acetic Acid, 20% ethanol, 95% ethanol, Isooctane, 3% Acetic Acid, 95% ethanol.

The overall migration results obtained were found to be below the overall migration limits defined in EU regulation 10/2011 (EU) 2020/1245.
Additionally SGS have carried out a document review of the formulation of the above resin. All monomers and additives contained in the formulation are approved for use in food contact plastics with our restrictions under EU regulation 10/2011 (EU) 2020/1245 as amended.
The above product is in compliance with ultimate limit in force from 30 June 2001 specified in EC directive 94/62/EC. The packaging and packaging waste directive for the combined levels of lead, cadmium, mercury and hexavalent chromium. The limit specified in EC directive 94/62/EC for the combined total of lead, cadmium, mercury and hexavalent chromium is as follows:
100 mg/kg from 30 June 2001.

Users are reminded that EU regulation 10/2011(EU) 2020/1245, relates to finished article materials manufactured from plastic. Users of the above products are therefore responsible for ensuring that their finished products comply with the overall migration limit and the specific migration limit mentioned above, by conducting appropriate tests on their finished products. User should pay particular attention to the food types and temperature conditions under which the finished product will be used and conduct appropriate migration tests using conditions selected using EU regulation 10/2011(EU) 2020/1245, furthermore users should also ensure that their finished products do not bring about an unacceptable change in the taste or odor of food products and comply with the other requirements specified in EC regulation 1935/2004. This requirement is issued by the Company under its General Conditions of Service printed overall. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.
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Signed & dated in Tehran-IRAN / Nov 29, 2021

AG 21-04479L01
For and behalf of SGS (IRAN)

SGS logo and signature of H.N. Ghassemi (Health and Nutrition) No. 1



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SGSPAPER 20415639



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