HALDIA
PETROCHEMICALS LTD

POWERING PROGRESS



HALENE-H

HDPE High Density Polyethylene

HALENE-P

PP Polypropylene

HALENE-L

LLDPE Linear Low Density Polyethylene

www.haldiapetrochemicals.com



ABOUT HALDIA PETROCHEMICALS LIMITED

Haldia Petrochemicals Ltd. (HPL) is a state-of-the-art Naphtha based Integrated Petrochemicals Complex, located 125 km from Kolkata, at Haldia, West Bengal, India.

HPL manufactures over 1.7 million tonnes of products which include polymers, such as Linear Low Density Polyethylene (LLDPE), High Density Polyethylene (HDPE), Polypropylene (PP) and chemicals such as Benzene, Butadiene, C4 Raffinate, Liquefied Petroleum Gas (LPG), Pyrolysis Gasoline, Motor Spirit and Cyclopentane.

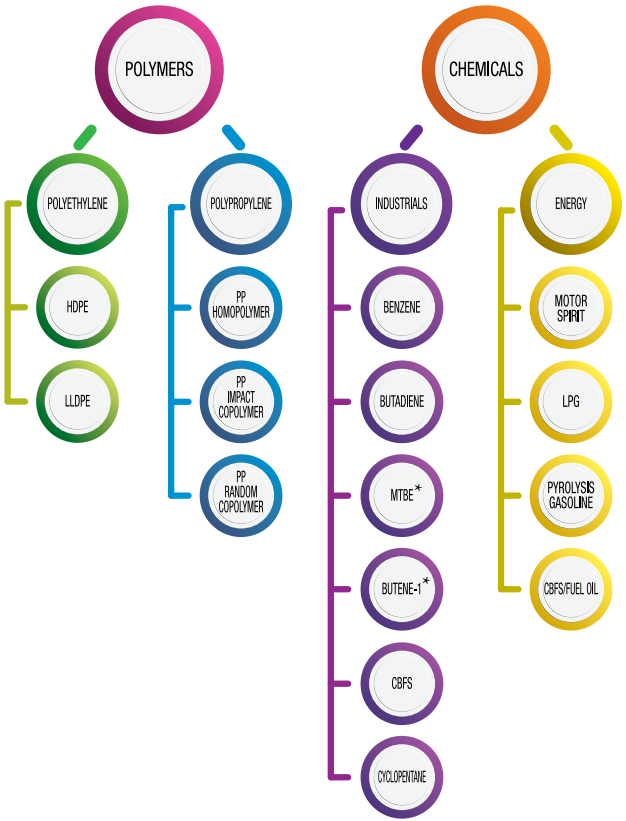


OUR VISION

To be a profitable, efficient and customer-focused organisation, recognised as a leading supplier of quality products and services.

- Delivering value to its shareholders
- Dedicated to achieving customer satisfaction
- Demanding yet a caring employer
- Fair and courteous to its vendors
- Striving to be a responsible corporate citizen

PRODUCT RANGE



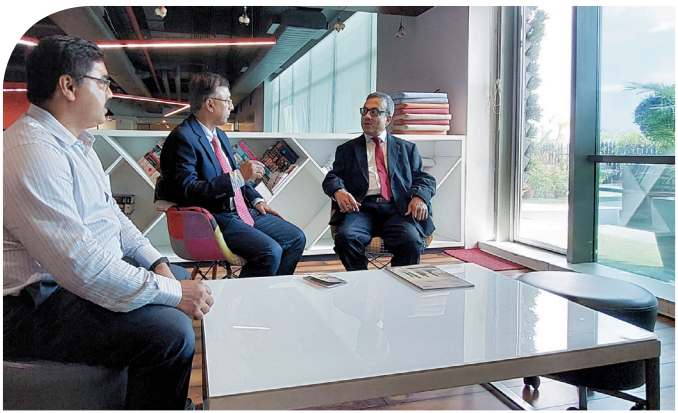
* Products are sold by Adperma (100% subsidiary of HPL)

CUSTOMER FOCUS

We are a customer-focused organisation, valuing our customer needs the most and are committed to provide quality products and services to our customers.

Quality of our products and services are defined by our customers. We work as a partner to understand customers' businesses and expectations, so that we are able to meet their needs today and in the future.

We have established quality management systems to measure, monitor and control quality and facilitate improvements. We assess ourselves continually through SQC tools, external and internal customer surveys, auditing and self-assessments.



FULLY INTEGRATED NEW-AGE PLANT

The sprawling HPL plant in Haldia is a fully integrated naphtha cracker based petrochemicals complex that has adopted state-of-the-art technologies and advanced process control systems for safe and reliable operations. The complex is equipped with a captive power plant, extensive water storage and handling facilities, large hydrocarbon and polymer warehouses. The complex is linked to the Haldia port via a dedicated network of pipelines for both feedstock and liquid products.

MANUFACTURING UNITS

Plant	Capacity	Technology
Naphtha Cracker Unit	700 kTA	Lummus Technology, USA
Linear Low Density Polyethylene	386 kTA	LyondellBasell, Netherlands
High Density Polyethylene	334 kTA	MITSUI, Japan
Polypropylene	341 kTA	LyondellBasell, Netherlands
Benzene Extraction Unit	132 kTA	LURGI, Germany
Butadiene Extraction Unit	101 kTA	BASF, Germany
Py. Gasoline Hydrogenation Unit	240 kTA	AXENS, France
LPG	28 kTA	AXENS, France
Cyclopentane	5 kTA	AXENS, France
MS Petrol	250 kTA	HPL, India
Butene-1*	30 kTA	AXENS, France
MTBE*	98 kTA	AXENS, France

kTA – Kilo tonnes per annum
* Products are sold by Adperma (100% subsidiary of HPL)

SUPERIOR PRODUCTS

Every product of HPL is in sync with the highest international standards and is widely used by rigid and flexible packaging, consumer durables, automobiles, furniture, luggage, infrastructure and agricultural industries in India and in various other countries from EU, Southeast Asia and the USA.

Haldia Petrochemicals Limited manufactures 720 kTA of High Density Polyethylene (HDPE) and Linear Low Density Polyethylene (LLDPE).

HPL's HDPE products include a wide range of narrow, medium and broad (bi-modal) molecular weight distribution grades using Spherilene Gas Phase Swing Process and Mitsui Slurry CX processes to suit a wide range of applications.

HPL has adopted Spherilene Gas Phase Swing Process from LyondellBasell to produce a wide array of LLDPE grades.

HPL manufactures 341 kTA of high quality polypropylene homopolymer and copolymer grades using Spheripol II Technology from LyondellBasell.

The Chemicals portfolio of HPL includes energy products like Motor Spirit, Hydrogenated C4 (LPG), Pyrolysis Gasoline and Carbon Black Feedstock (CBFS) and industrial intermediates and feedstocks like Benzene, Butadiene, Cyclopentane & CBFS.

CHEMICALS PRODUCT PROFILE

Products	Applications
Benzene	• Styrene • Phenol • Linear Alkyl Benzene (LAB) • Caprolactam • Nitrobenzene/Aniline
Butadiene	• Polybutadiene Rubber (PBR) • Styrene – Butadiene Rubber (SBR) • Acrylonitrile Butadiene Styrene (ABS)
Hydrogenated C4 Raffinate (LPG)	• Domestic and Industrial Fuel • Auto LPG
Butene-1*	• Comonomer for polyethylene
Cyclopentane (Ultra high purity>97%)	• Environment-friendly substitute for CFC/HCFC • Blowing agent for PU Foams
Pyrolysis Gasoline Hydrogeneted (HPG)	• MS Blending • Aromatics Extraction
MTBE*	• Raw material for isobutylene • Octane Booster
MS Petrol	• Fuel for Motor Cars
Carbon Black Feed Stock	• Carbon Black • Environment-friendly fuel for furnace

* Products are sold by Adperma (100% subsidiary of HPL)

HALENE-H **HDPE** **TECHNICAL DATASHEET**

HDPE Extrusion Grades - Film, Raffia, Yarn, Monofilament, Pipe												
Grade	Properties	MFI*	Density*	Tensile Strength at Yield	Tensile Strength at Break	Elongation at Break	Izod Impact Strength	Flexural Modulus	ESCR F50 10% Igepal Soln.	OIT	BIS LICENSE No. CM/L - 5100208172	Applications
	Test Method	ASTM D1238 IS 13360	ASTM D1505 IS 13360	ASTM D638			ASTM D256A	ASTM D790A	ASTM D1693B	ASTM D3895	BIS Code	
	Unit	g/10 min	g/cm^3	MPa	MPa	%	J/m	MPa	Hr	min		
F5400		0.50(I_5)	0.952	28	40	800	180	1150	>500	-	IS 7328-3B-FB-FXTA	Carry Bags and Printed Shopping Bags
P5300		0.25 (I_5)	0.948 (27°C)	26	40	800	270	1100	>1000	>30	IS 7328-3B-PBK-EXTA	Pipes (PE 112 - Type Test Compliant)
P5200		0.90 (I_5)	0.948 (27°C)	25	38	850	175	1000	>1000	>30	IS 7328-3B-PB-EXTA	Pipes (PE 63 - Type Test Compliant)
P5200UV		0.90 (I_5)	0.948 (27°C)	25	38	850	175	1000	>1000	>30	IS 7328-3B-PD-EXTA	Pipes (PE 63 - Type Test Compliant) and Telecom ducts. UV Stabilized
P5100		0.50 (I_5)	0.948 (27°C)	25	35	850	200	1100	>500	>30	IS 7328-3B-PB-FXTA	Pipes (PE 80 - Type Test Compliant)
R5801		0.5	0.960	32	38	800	200	1150	-	-	IS 7328-3P-TB-GXDA	Raffia for Woven Sacks and Tarpaulin
HD T6		0.5	0.960	30	38	800	250	1150	-	-	IS 7328-3P-FB-GXDA	General Purpose Extrusion, Woven Fabrics and lamination Film
HD T9		1.1	0.950	26	38	1000	400	1100	-	-	IS 7328-3B-TB-EDA	Raffia for Woven Sacks and Tarpaulin
HD T10		1.1	0.950	26	38	1100	400	1000	-	-	IS 7328-3B-LBO-EDA	Yarns and Monofilaments for Nets and Ropes
HD T10S		1.1	0.950	26	38	1100	400	1000	-	-	IS 7328-3B-LB-EDA	Monofilament for Nets, Twines and Ropes

HDPE Molding Grades - Blow & Injection												
Grade	Properties	MFI#	Density#	Tensile Strength at Yield	Tensile Strength at Break	Elongation at Break	Izod Impact Strength	Flexural Modulus	ESCR F50 10% Igepal Soln.	OIT	BIS LICENSE No. CM/L - 5100208172	Applications
	Test Method	ASTM D1238 IS 13360	ASTM D1505 IS 13360	ASTM D638			ASTM D256A	ASTM D790A	ASTM D1693B	ASTM D3895	BIS Code	
	Unit	g/10 min	g/cm^3	MPa	MPa	%	J/m	MPa	Hr	min		
B5500		0.35 (I_5)	0.952	27	40	850	500	1000	>1000		IS 7328-3B-BB-FXTA	Medium & Large Containers upto 120L & Blow Molded Tanks upto 1000L
B6401		0.40	0.960	32	40	1000	300	1000	<20	-	IS 7328-3P-BB-GXDA	General purpose Blow molding
E5201		0.35	0.950	25	34	850	120	1000	>600	-	IS 7328-3B-BB-EXDA	High ESCR Blow Molding and Extrusion
E5201S		0.35	0.954	25	36	850	100	1100	250	-	IS 7328-3B-BB-FXDA	General Purpose Blow molding
M5002L*		3.0	0.950	25	30	700	180	950	-	-	IS 7328-3B-CB-EDB	Injection Molded and Extrusion Compression Molded Caps
M5005L*		4.5	0.950	22	31	900	100	850	-	-	IS 7328-3B-MB-EDC	Industrial Products, Crates, Bins
M6007L*		8.0	0.950	24	-	500	50	850	-	-	IS 7328-3B-MB-EDD	Industrial Products, Crates, Bins
M6007LU*		8.0	0.950	24	-	500	50	850	-	-	IS 7328-3B-MD-EDD	Industrial Products, Crates, Bins-UV Stabilised
M5018L*		20.0	0.950	22	-	450	35	800	-	-	IS 7328-3B-MB-EDE	General Purpose Injection Molding

#MFI tested at 2.16 kg (unless otherwise mentioned) & 190°C.

#Density measured at 23°C & for Pipe grades (P5300, P5200, P5200UV and P5100) measured at 27°C as per IS 4984

Physical Properties tested on Compression Molded Specimens

*Properties on Injection Molded Specimens

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The above typical properties are not to be construed as Specifications and may change without any prior notice

The user will solely be responsible for any intended process / product usage and HPL does not guarantee or undertake any responsibility for any consequential damage or loss based on the information given above.

HALENE-P **PP** **TECHNICAL DATASHEET**

Polypropylene

Grade	Properties	MFI*	Tensile Strength at Yield	Tensile Elongation at Yield	Flexural Modulus	Notched Izod Impact Strength	Heat Deflection Temperature	Vicat Softening Point	BIS Code	Application
	Test Method	ASTM D1238 IS 13360	ASTM D 638		ASTM D 790A	ASTM D 256A	ASTM D 648	ASTM D 1525		
	Unit	g/10 min.	MPa	%	MPa	J/m	°C	°C		
PP Homopolymer - Extrusion Grades										
F103		3	34	10	1450	40	95	152	IS 10951-1-FB-A	BOPP Film Grade - General Purpose, Lamination & Metallizable films
R103		3.3	34	9	1450	40	93	153	IS 10951-1-TB-A	Raffia Tapes for Woven Sacks for Packaging Cements & Fertilizers ,FIBC, Ropes & Yarns
T103		4	37	8	1700	45	95	154	IS 10951-1-DBL-A	Thermoformed Cups, Containers & Other disposable items
F110		11	34	9	1400	30	99	154	IS 10951-1-NBH-C	Tubular Quenched and Cast Films for General Purpose Packaging
F135		35	35	8	1350	45	105	150	IS 10951-1-HBV-E	Spunbonded Nonwoven fabric and extrusion coating
PP Homopolymer - Injection Molding Grades										
M103		3	32	7	1300	35	93	153	IS 10951-1-ZB-A	General Purpose Extrusion & Injection Molding
M106		6	32	7	1300	35	93	153	IS 10951-1-ZB-A	General Purpose Extrusion & Injection Molding
M108		8	30	7	1300	35	94	152	IS 10951-1-ZB-B	General Purpose Extrusion & Injection Molding
M110		11	34	9	1400	30	99	154	IS 10951-1-MB-C	General Purpose Injection Molding Furniture & Household items

Grade	Properties	MFI*	Tensile Strength at Yield	Tensile Elongation at Yield	Flexural Modulus	Notched Izod Impact Strength	Heat Deflection Temperature	Vicat Softening Point	BIS Code	Application
	Test Method	ASTM D1238 IS 13360	ASTM D 638		ASTM D 790A	ASTM D 256A	ASTM D 648	ASTM D 1525		
	Unit	g/10 min.	MPa	%	MPa	J/m	°C	°C		
PP Impact Copolymer - Injection Molding Grades										
M304		3.5	25	7	950	150	90	150	IS 10951-3-MB-A	Automotive Components, Crates, Paint Pails & Furniture
M307		7	23	6	950	80	88	145	IS 10951-3-ZB-B	General Purpose Injection Molding
M310		10	24	6	1200	90	95	145	IS 10951-3-JB-C	Battery Boxes & industrial Items
M312		12	23	5	950	120	88	145	IS 10951-3-MB-C	Compounding,Industrial Components, Automotive Components, Luggage, Paint Pails
M311T		10	21	7	900	500	85	142	IS 10951-3-MBJ-C	Compounding, Automotive Components, Luggage, Industrial Components
PP Random Copolymer - Injection Molding Grades										
M212S		12	28	12	1050	50	75	128	IS 10951-2-MBL-C	High Clarity Containers & other Household items, Injection Syringe & High Clarity Medical / Laboratory products, ISBM Bottles

*MFI tested at 2.16 kg & 230°C.

Mechanical properties tested on Injection Molded Test Specimens.

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HALENE-L LLDPE TECHNICAL DATASHEET

LLDPE Film Grades									
Grade	Properties	MFI#	Density#	Tensile Strength at Break* (MD/TD)	Elongation at Break* (MD/TD)	Elmendorff Tear Strength* (MD/TD)	Dart Impact Strength*	BIS LICENSE No. CM/L - 5100208172	Applications
	Test Method	ASTM D1238 IS 13360	ASTM D1505 IS 13360	ASTM D882		ASTM D1922	ASTM D1709A	BIS Code	
	unit	g/10min	g/cm^3	MPa	%	g	g/μm		
71501S		1.0	0.922	25 / 16	650 / 750	150 / 400	4	IS 7328-2B-FBH-BDA	General Purpose Packaging Films - With Slip and Antiblock
71601W		1.0	0.920	25 / 16	650 / 750	150 / 400	4	IS 7328-2B-FBE-BDA	Adhesive Lamination Films - No Slip and Antiblock
71602S		2.0	0.920	19 / 14	700 / 750	100 / 300	3	IS 7328-2B-FBH-BDB	General Purpose Packaging Films - With Slip and Antiblock
71602W		2.5	0.920	23 / 19	500 / 750	60 / 280	2	IS 7328-2B-FBE-BDB	Cast Film for Stretch Wrap Application, Adhesive Lamination Films- No Slip and Antiblock
LLDPE Grades for Drip Lateral, Extrusion Coating & Rotomolding									
71601D##		1.0	0.920	-	1000	500	400	IS 7328-2B-NB-BDA	Drip Lateral Pipes
LL T12##		3.7	0.926	-	500	500	550	IS 7328-2B-JO-CDC	Low Voltage Power Cable Insulation Using Silane - Crosslinking
73204T#		5.0	0.932	17	900	500	400	IS 7328-2B-RBO-CDC	Rotomolded Tanks & Containers for Domestic & Industrial Water Storage, Sanitation & Agriculture
73204TU#		5.0	0.932	17	900	500	400	IS 7328-2B-RDO-CDC	Rotomolded Tanks & Containers for Domestic & Industrial Water Storage, Sanitation & Agriculture - UV Stabilized
73005T#		5.0	0.934	17	500	350	400	IS 7328-2B-RBJ-CDC	Rotomolded Tanks & Containers for Domestic & Industrial Water Storage, Sanitation & Agriculture
73005TU#		5.0	0.934	17	500	350	400	IS 7328-2B-RDO-CDC	Rotomolded Tanks & Containers for Domestic & Industrial Water Storage, Sanitation & Agriculture - UV Stabilized
72307E#		7.0	0.926	-	300	500	300	IS 7328-2B-HB-CDD	Extrusion Coating on Woven Fabric, Aluminium Foil, Jute, Paper & Allied Substrates

#MFI tested at 2.16 kg & 190°C. #Density are measured at 23°C .

*Film Properties tested on 25mm films

#Mechanical Properties tested on Injection Molded Specimens

##Mechanical Properties tested on Compression Molded Specimens

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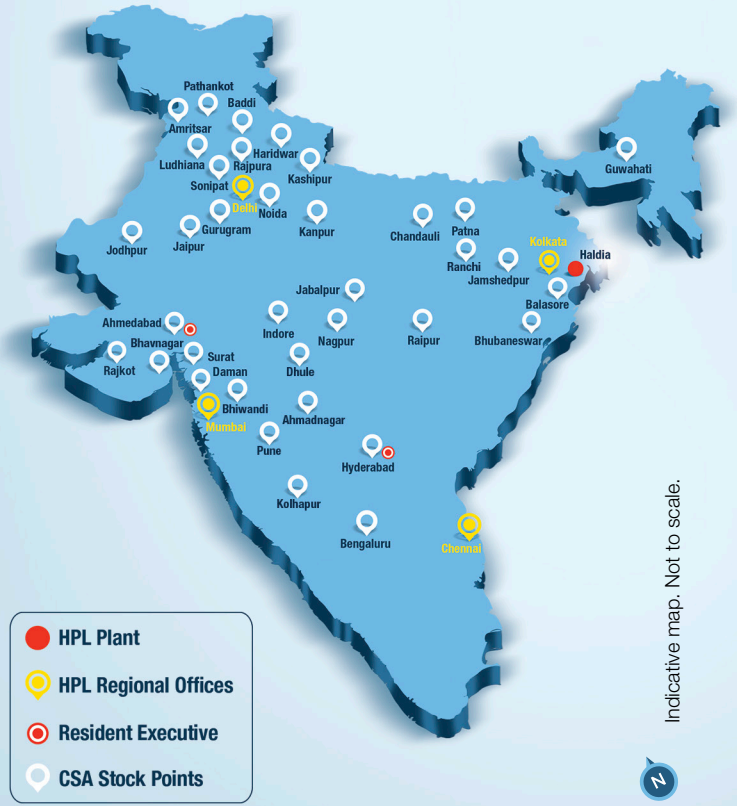
WITH A PAN INDIA DISTRIBUTION NETWORK, 4 REGIONAL OFFICES, 48 WAREHOUSES, HALDIA PETROCHEMICALS LIMITED SERVES OVER 4000 CUSTOMERS AND EXPORTS TO OVER 60 COUNTRIES.



Corporate Office

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Chemicals Exports

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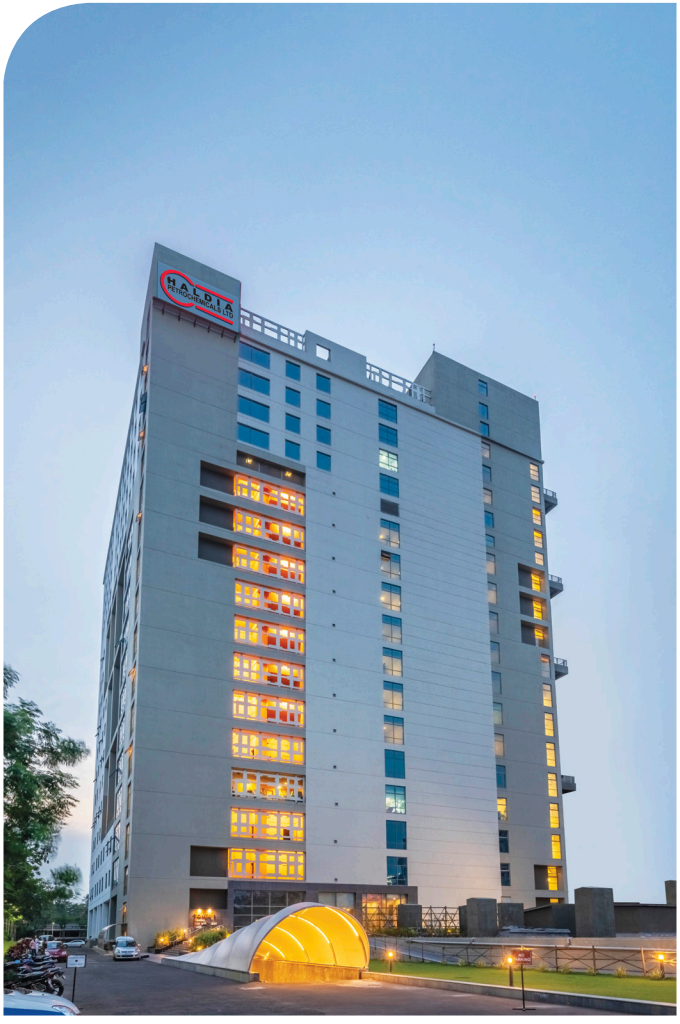

LIST OF AGENTS

Eastern Region

- Goel Polymers
- Peekay Agencies Pvt. Ltd
- Poddar Polyfab Pvt. Ltd
- Puja Poly Plastic Pvt. Ltd.
- R.D Computech Pvt. Ltd.
- Rajami Barter Pvt Ltd.
- Ratnajeet Polycorp (P) Ltd
- Taparia Consultants (P) Ltd.

Western Region

- Chandantara Commercial Pvt Ltd
- Ganpati Petrochemicals
- Hariram Packaging & Polymers
- Labdhi International Pvt Ltd
- Patwa Steels Indore Private Limited
- Plastchem Industries
- Twenty Six Trading LLP

Northern Region

- ABS INDUSTRIES
- D.H Polymers Pvt. Ltd.
- Delhi Polymers Chemicals Pvt. Ltd
- Ekam Plasto-Chem. Pvt. Ltd
- Kashish Plastics Pvt. Ltd
- Kothari Sales Agencies
- Kosmo Enterprises
- Lokesh Rani Poly Distributors(UK)
- Pallavi International Pvt. Ltd
- Raunak Enterprises
- Reliable Agencies
- Shine Polymers
- Shree Maru Tradelink Ltd.

Southern Region

- Amdiyala Enterprises
- Apsara Polymers (P) Ltd
- Chandantara Commercial Pvt Ltd
- Chennai Polymers Pvt. Ltd.,(H.O.)
- Fareed & Company
- Sanjay Dhruv Traders Pvt. Ltd
- Shreeji Industries
- Vidhata Polymers Pvt. Ltd

List of Stock Points

East: Howrah, Bhubaneswar, Balasore, Guwahati, Jamshedpur, Patna, Ranchi, Raipur & Jabalpur | **West:** Bhiwandi, Nagpur, Kolhapur, Pune, Dhule, Ahmadnagar, Ahmedabad, Rajkot, Surat, Bhavnagar, Indore & Daman (3 No) | **North:** New Delhi (5 No), Noida, Chandauli, Kanpur, Jaipur, Jodhpur, Ludhiana, Rajpura, Amritsar, Baddi, Kashipur, Haridwar, Gurugram,Sonepat & Pathankot | **South:** Chennai, Hyderabad (4 No) & Bengaluru

For complete details check website **www.haldiapetrochemicals.com**

APPLICATION RESEARCH & DEVELOPMENT Centre (ARDC)

HPL invests substantially in Research and Development to meet the needs that may arise in the future and to be able to stay ahead of the times. It has a state-of-the-art Application Research and Development Centre (ARDC) at Salt Lake Kolkata, for Product Research, Application Development and Technical Supportto Polymer customers.





PRODUCT DEVELOPMENT & TECHNICAL SUPPORT (PDTS)

PDTS provides the following services to meet customer requirements:

- Assisting Customers for HPL Grade Selection
- Extending Technical Support to Customers Including Assistance in Testing and Analysis
- Providing Processing Guidelines and Application Related Information
- Development of New Grades
- Quality Improvement of Existing Grades
- Product Stewardship and Compliance Certificates
- Product Customisation for Specific Market and Customer Needs

















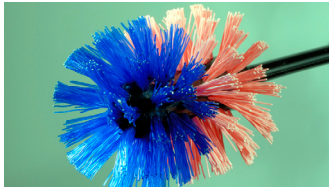



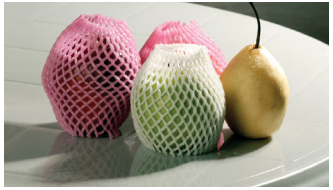



BUSINESS DEVELOPMENT

Our Business Development Group develops and facilitates new business opportunities and ensures that customers receive the best possible services and support:

- Identification of new product opportunity
- Steer market development and entrepreneurship development in line with company's business strategy
- Partnership with customer for product promotion. Assist new business ventures/ entrepreneurs in selection of raw materials, machinery and products in emerging markets

The Business Development Group also spearheads market development to increase polymer usage and promote awareness on environmental issues.



HPL AND THE ENVIRONMENT

A deeply caring attitude towards the environment sets HPL apart. Global practices have been adopted for environment management. Several measures have been taken for pollution control. Keeping the environment pollution-free and ensuring preservation of natural habitats are ongoing concerns. Process design measures have led to minimal waste generation.

A state-of-the-art waste water treatment plant and an incinerator have been installed to handle liquid and solid waste. A 50-100 m wide green belt developed along the periphery to control emissions is undoubtedly one of the best. The rich bio-diversity inside the plant acts as a catalyst to invigorate employees. Two major projects were launched to control greenhouse gas emissions. Most importantly, compliance with environmental norms is a top priority.



HALDIA PETROCHEMICALS LIMITED

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Application Research & Development Centre

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ABC