heartland
polymers

Product Portfolio

We believe in better
HeartlandPolymers.com

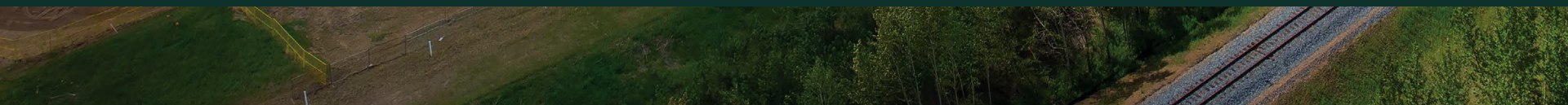
Welcome to

heartland polymers

MADE IN CANADA

We believe in better: People. Polymer. Performance.

Made in Canada, serving the world, we produce polypropylene that makes a difference for you and for your customers.



Our nameplate capacity is 525,000 tonnes of polypropylene per year, representing only the second new PP capacity added to North American market in a decade.

North America's only single-site PDH/PP facility.

Heartland's portfolio of quality polypropylene products is manufactured at North America's only single-site propane dehydrogenation (PDH) and polypropylene (PP) production facility, located near Edmonton, Alberta, in Western Canada. This strategic location is less prone to weather-related service disruptions than other plants. Our Heartland Complex is connected to an extensive network of rail and storage facilities, ensuring reliable delivery of product to our customers across North America and around the globe.

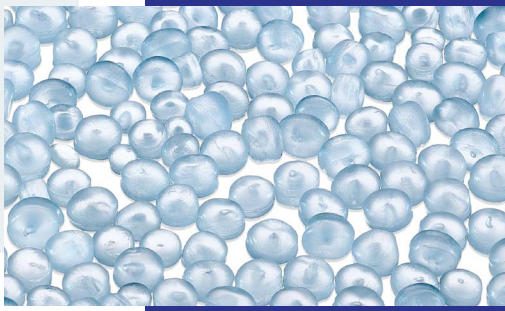
Leading in a bold new era of sustainability.

Deliberate design and technology choices paired with local propane feedstock will help Heartland generate an expected 35 per cent less greenhouse gas emissions compared to average North American facilities, according to an independent study commissioned by parent company, Inter Pipeline prior to the Heartland build. Heartland Polymers is working to verify these estimates with operational data. We're ready to help lead our industry into an exciting new era of innovation and social responsibility.

Smart technology at the heart of innovation.

Technology enables us to solve tomorrow's problems by transforming bold ideas into products that shape our lives – responsibly. From production to logistics to sustainability, we are relentless in our pursuit of excellence on behalf of our industry and our optimistic vision of the future. We believe the global polymer industry can play a growing role in meeting the rapidly shifting needs of modern societies – from healthcare to food convenience and storage, personal hygiene to home décor.

Innovation in sustainability was at the forefront during the research, analysis and selection of PDH and PP processing technologies at our complex. We selected our processing technologies based on overall efficiency and high environmental performance.



Quality in every shipment.

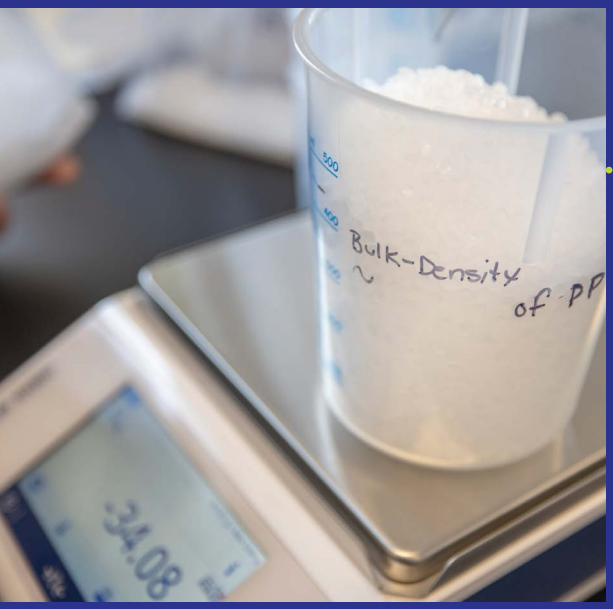
Consistency and reliability are paramount for our customers. Our quality control lab was designed and optimized to ensure that every aspect of production meets and exceeds the high standards of our supply chain partners and our polypropylene customers.

Heartland's intensive quality control program leverages leading technologies and best practices to provide the competitive edge our supply chain demands.

Better starts here. And we'll prove it every day.

Our geographical advantage. A new standard in reliability.

Our complex is connected via rail to a vast network of storage facilities and international ports across North America. Our location is not as susceptible to extreme weather events that can significantly disrupt shipping. We use state-of-the-art GPS to track all shipment activity and a blockchain approach to create transparency across the entire supply chain.




Sustainability
is more than
a buzzword.

Leadership and collaboration for a brighter future.

The global polymer industry is poised for significant growth over the coming years, but we must work together to deliver increased sustainability to fulfill our great potential.

Heartland Polymers is proud to support a growing list of partners in advocating for plastic waste reduction.

- Established the Plastics Research in Action (PRIA) initiative through a $10 million, 10-year partnership with the Northern Alberta Institute of Technology (NAIT) to identify opportunities to advance the circular economy and keep plastic waste out of the environment.
- We are one of the first Canadian members of the Alliance to End Plastic Waste, a global partnership of plastics producers committed to eliminating plastic waste in the environment.
- A founding member of the Plastics Alliance of Alberta a partnership between industry, academia and the Government of Alberta.
- A proud member of the UN-recognized Responsible Care™ Program of the Chemistry Industry Association of Canada (CIAC).

NAIT APPLIED RESEARCH

PLASTICS ALLIANCE OF ALBERTA

Operation Clean Sweep®

ALLIANCE TO END PLASTIC WASTE

RESPONSIBLE CARE

Heartland Polymers is also committed to recycle and market all on-and-off-spec polypropylene produced at the facility and send no plastics to landfill. But that's just the start – we look forward to playing a leadership role in helping the polymer industry grow responsibly.

Polypropylene Homopolymers

FABRICATION FAMILY			EXTRUSION		FIBER					FILM		MOLDING				
GRADE NAME			H1002NA	H1003N	H5103	H5104 H5104A	H5012G	H5025G	H5235G	H3003	H3209	H7012 H7012N	H7020S	H7035 H7035N H7035E	H7050E	H7060E
PRIMARY APPLICATION			Thermo-forming/Extrusion blow molding	Thermo-forming/Extrusion blow molding	Raffia	Raffia	Staple	Multi-Filament	Spunbond	BOPP	Cast film	Consumer/House-wares	Caps and closures	Packaging	Packaging	Packaging
PROPERTIES	UNITS	TEST METHOD	NOMINAL VALUES													
Melt Flow Rate (2.16 kg at 230°C)	g/10 min	ASTM D1238	1.8	3.0	3.5	4.0	12.0	25.0	35.0	3.0	8.8	12.0	20.0	35.0	50.0	60.0
Tensile Strength @ Yield 50 mm/min (2 in/min)	MPa (psi)	ASTM D638	39 (5,700)	39 (5,700)	36 (5,250)	36 (5,200)	37 (5,350)	37 (5,350)	33 (4,850)	33 (4,800)	36 (5,200)	36 (5,300) 37 (5,500)	37 (5,250)	35 (5,100) 38 (5,500) 39 (5,650)	35 (5,100)	40 (5,800)
Tensile Elongation @ Yield	%	ASTM D638	6	6	10	9	8	8	10	12	8	8	7	9 8	6	8
Flexural Modulus 1% Secant 1.3 mm /min (0.05 in/min)	MPa (psi)	ASTM D790	1,800 (265,000)	1,900 (275,000)	1,600 (233,000)	1,600 (230,000)	1,600 (232,000)	1,600 (232,000)	1,250 (182,000)	1,375 200,000	1,540 (223,000)	1,650 (245,000) 1,800 (260,000)	1,700 (247,000)	1,550 (225,000) 1,650 (240,000) 1,800 (261,000)	1,800 (261,000)	1,850 (268,000)
Notched Izod Impact Strength @ 23°C	J/m (ft-lb/in.)	ASTM D256A	22 (0.5)	22 (0.4)	29 (0.5)	28 (0.5)	30 (0.6)	25 (0.5)	21 (0.4)	32 (0.6)	35 (0.7)	24 (0.4) 29 (0.5)	25 (0.5)	19 (0.3) 20 (0.4)	20 (0.4)	18 (0.3)
Heat Deflection Temperature (HDT) @ 0.45 MPa/ (66 psi)	°C (°F)	ASTM D648	123 (253)	124 (256)	102 (214)	103 (217)	104 (219)	104 (219)	96 (204)	95 (203)	104 (219)	106 (223) 119 (248)	104 (219)	107 (226) 117 (243) 121 (251)	110 (230)	122 (252)
MAIN FEATURE			Clarified and anti-stat	High clarity	Multi-purpose	Multi-purpose	Anti-gas fading	Anti-gas fading	Narrow MWD/ Anti-gas fading	High speed	High clarity	Barefoot for master-batch/Others multi-purpose	Multi-purpose	Low taste and odor	Low taste and odor/ fast cycle time/high stiffness	Low taste and odor/ low warpage
APPLICATION DETAILS			Drinking cups, portion cups, bakery and produce trays	Clear drinking cups, portion cups, bakery and produce trays	25 kg bags, jumbo bags, carpet backing, rope, twine, straws and tubing, general purpose additives	25 kg bags, carpet backing, straws, tubing, general purpose additives	Yarns and non-wovens for furniture, automotive, carpet backing, wall coverings, suitable for short spin process	Carpet face yarn	Spunbond grade for diapers and hygiene applications	High speed BOPP metallizable film	Stationary, sheet protectors, photo albums, DVD case covers, packaging	Packaging, consumer housewares	Large caps and closures for wide mouth containers, general purpose injection molding of thick parts	Food packaging, multimedia cases, cosmetic cases, personal products, large lids	Food packaging, multimedia cases, cosmetic cases, personal products, large lids	Food packaging, multimedia cases, cosmetic cases, personal products, large lids

Suffix Legend: A = Anti-static; B = Anti-block; E = Nucleation/mold release; G = Anti-gas fading; H = Heat stabilized; N = Nucleated/clarified; S = Slip/mold release; U = UV stabilizer; Z = Others

Polypropylene Random Copolymers

FABRICATION FAMILY			EXTRUSION			FILM		MOLDING							
GRADE NAME			R1302NS (Mini-random)	R1302N (Mini-random)	R1002	R3207SB	R3208	R7012NA	R7012NA2	R7020NA	R7030NA	R7035NA	R7045NA	R7050NS	R7070NA	R7085NA
PRIMARY APPLICATION			Thermo-forming/ Extrusion blow molding	Thermo-forming/ Extrusion blow molding	Thermo-forming/ Extrusion blow molding	BOPP	Cast film	Consumer/House-wares	Consumer/ Housewares	Consumer/House-wares	Packaging	Packaging	Packaging	Caps and closures	Packaging	Packaging
PROPERTIES	UNITS	TEST METHOD	NOMINAL VALUES													
Melt Flow Rate (2.16 kg at 230°C)	g/10 min	ASTM D1238	2.1	2.2	1.9	7.0	8.0	12.0	12.0	20.0	30.0	35.0	45.0	50.0	70.0	85.0
Tensile Strength @ Yield 50 mm/min (2 in/min)	MPa (psi)	ASTM D638	37 (5,400)	38 (5,500)	26 (3,800)	19 (2,750)	25 (3,650)	27 (3,900)	27 (3,900)	27 (3,900)	27 (3,900)	28 (4,050)	28 (4,050)	28 (4,050)	28 (4,050)	28 (4,050)
Tensile Elongation @ Yield	%	ASTM Dw	8	6	9	11	9	9	9	9	9	8	9	9	5	5
Flexural Modulus 1% Secant 1.3 mm/min (0.05 in/min)	MPa (psi)	ASTM D790	1,580 (230,000)	1,650 (242,000)	930 (135,000)	550 (80,000)	760 (110,000)	1,100 (160,000)	1,100 (160,000)	1,100 (160,000)	1,100 (160,000)	1,100 (160,000)	1,060 (155,000)	1,070 (155,000)	1,020 (150,000)	1,000 (145,000)
Notched Izod Impact Strength @ 23°C	J/m (ft-lb/in.)	ASTM D256A	77 (1.4)	27 (1.5)	60 (1.1)	90 (1.7)	50 (0.9)	53 (1.0)	53 (1.0)	47 (0.9)	44 (0.8)	38 (0.7)	50 (0.9)	55 (1.0)	40 (0.7)	37 (0.7)
Heat Deflection Temperature (HDT) @ 0.45 MPa/ (66 psi)	°C (°F)	ASTM D648	84 (183)	118 (246)	84 (183)	–	81 (178)	83 (181)	83 (181)	83 (181)	83 (181)	78 (172)	83 (181)	–	–	–
MAIN FEATURE			High slip content	Good clarity	Suitable for multilayer structures	Heat sealable skin layer with slip and antiblock	High clarity	Fast cycle time/ low shrinkage/ good clarity	Fast cycle time/ low shrinkage/ superior clarity	Fast cycle time/ low shrinkage/ good clarity	Low taste and odor/high clarity	Low taste and odor/high clarity/ low blooming	Low taste and odor/improved cycle time/high clarity	Improved organoleptics	Low taste and odor/fast cycle time/superior clarity and low blooming	Low taste and odor/fast cycle time/superior clarity
APPLICATION DETAILS			EBM large containers, thick gauge thermo-forming, large part thermo-forming	Clear bottles for food packaging of syrup, condiments, sauces and fruits, clarified thermo-forming	Non-clarified bottles for institutional food packaging thermo-forming	Multilayer sealable films for snack food, bakery, and tobacco packaging	Mono and multilayer cast films or multilayer blown films for packaging, retort pouches, shrink and stretch wrap	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawers	Clear food storage containers, clear organizers for fishing tackle, hardware and hobby supplies, clear bins and drawer	Clear food packaging, multimedia cases, cosmetic personal products	Clear food packaging, multimedia cases, cosmetic personal products	Caps and closures for bottles and containers, clear thin wall injection molding applications	Clear food packaging, multimedia cases, cosmetic cases, personal products	Clear food packaging, multimedia cases, cosmetic cases, personal products

Suffix Legend: A = Anti-static; B = Anti-block; E = Nucleation/mold release; G = Anti-gas fading; H = Heat stabilized; N = Nucleated/clarified; S = Slip/mold release; U = UV stabilizer; Z = Others

Quality resins produced sustainably, delivered reliably.

Homopolymer

Our homopolymer varieties provide excellent uniformity over a broad range of melt flows, high strength-to-weight ratio, and exceptional toughness and versatility, bringing new meaning to the phrase all purpose. More rigid and resistant to high temperatures, our homopolymers are particularly suitable for high-heat applications or steam sterilization applications. For durability and flexibility across a diverse range of applications in injection molding, film, fiber, sheet extrusion and thermoforming.

Random copolymer

Our random copolymer varieties bring either more impact strength or more clarity as ethylene is bonded into the polymer chain. Tougher and more durable, our random copolymers provide optimum performance at a broad range of melting points, delivering increased crack resistance and cold temperature resilience, high clarity and transparency, and flexibility across injection molding, blow molding, film extrusion, sheet extrusion and thermoforming.

Heartland Polymers polypropylene

All of our polypropylene features the following attributes:

- Excellent balance of processability and physical properties
- A tailored balance of stiffness to impact properties
- Exceptional heat and chemicals resistance
- Excellent price to performance ratio
- Lower density translating into weight savings
- Recyclable
- Phthalate free
- Free of any Animal Derived Materials (ADM)
- Meets the FDA requirements for direct and indirect food contact

Additionally, you'll find each of the main PP processes and subsequent products produced from each of these process and specific key attributes.

Process: Thermoforming/Sheet Extrusion

Applications: clear drinking cups, stadium cups, bakery and produce trays, yogurt cups

- Excellent clarity – clear cups and containers.
- Exceptional toughness – containers produced are resilient to breakage in use. Some single serve items like carry out containers or drinking cups can be reused multiple times.
- High melt strength – this property helps the process to down gauge products without breaking the molten polymer coming out of the dye.
- Enhanced draw down properties – make products thinner and faster.
- High crystallinity – for improved rigidity.

Process: Blow Molding

Applications: condiment bottles, drink bottles, ready-to-eat food containers, formulated drinks

- High heat deflection temperature – enables use in hot-fill beverage and food applications.
- Excellent clarity – bottles can compete with glass and polyethylene terephthalate (PET) in contact clarity.
- Improved colour retention – utilize the latest additives formulations to provide excellent color.

Process: Fibers – Spunbond

Applications: diapers, feminine hygiene, adult incontinence products and wet wipes

- High melt strength – resin is melted in extruder and pushed down through a spinneret that creates very fine fibers, while high melt strength keeps those fibers from breaking.
- Advanced anti-gas fading properties – in making the rolled sheets this property keeps those rolls from turning yellow while stored before they are processed into their final form.
- Superior barrier properties – helps keep moisture within the diaper and prevents leakage.
- Excellent tensile and flexural properties – the ability of the polymer to be pulled and flexed allows for excellent wearability and increased comfort.
- Lightweight – for lighter weight end products and increased comfort.

Process: Fibers – Filaments

Applications: blue tarps, woven-style re-usable shopping bags, carpet fibers and backing

- Enhanced draw down – the process requires the polymer to be extruded and stretched to a fraction of its original size, ensuring great pull strength.
- High speed processability – the ability of the resin to meet higher speed processing is crucial.
- Low water carry over – allows the fibers to not retain water after exiting the quenching stage of processing.

Process: Film Extrusion – BOPP

Applications: snack food bags (potato chips), packaging film, electronic foiled packaging and clear packaging semi-rigid film

- Enhanced draw down – the polymer is extruded through a flat die into a wide thick sheet, then it is pulled in the machine direction and in the transverse direction some 300-400 per cent to eventually the thickness of a snack food bag. These Biaxially Oriented Polypropylene (BOPP) machines can stretch out more than 100 meters in length.
- High speed processability – the BOPP lines need to run at fast rates and Heartland PP resins can perform very well at these high rates.
- Formulated for excellent processability in the stretching process – the polymer is designed so it can be stretched in both directions without breaking.

Process: Injection Molding

Applications: caps and closures, containers, automotive trim, utensils, buckets, DVD and game cases and totes

- Low gels – some polymers have imperfections that result in unmelted pellets appearing in the part, which are referred to as gels. Heartland PP resins have very low gels.
- Low shrinkage – the molten polymer is shot into a mold and the ability of the part to maintain its dimensions after being removed and cooled is a critical factor in product design. Heartland PP tends to have very low shrinkage.
- High heat deflection temperature – enables use in hot-fill application for pasteurization or sterilization processes as well as retort food packaging.
- Faster processing – customers require high cycle times to improve efficiencies.
- Excellent mold release properties – Heartland PP resins are formulated to come out of the mold easily.

Meet your Customer Success Team.

We've brought together some of the most experienced polymer sales and technical professionals who are passionately invested in driving the global polymer industry forward with a better way of doing business.

We understand the shifting nature of the polymer industry and the daily demands that processors and converters face in the pursuit to remain competitive. That's why we conducted industry consultations to hear directly from the industry as we designed and built every aspect of our business.

Informed by you, built for you.

Our online Heartland Polymers customer portal makes doing business with us efficient and stress-free. While we employ the latest in digital technologies to serve you better, our team will remain hands-on from initial engagement to the delivery of your order.

> *"We take great pride in developing partnerships with our customers based on trust and dependability. And we will continue to earn your business by delivering quality, reliability and personal service that sets a new bar for our industry."*
>
> – Yonas Kebede, Director Polypropylene Sales & Marketing

Amélie Delisle

Vice President,
Petrochemical Commercial

Amélie played a key role in the development of the Heartland Complex and oversees the execution of commercial agreements of North America's only single-site PDH/PP facility. She holds a BSc in Engineering Physics and a MSc in Theoretical Physics from Queens University. Amélie has worked in both the engineering and business development sides of the business, and was instrumental in major projects such as the Boreal Pipeline and the agreement to extract NGLs and olefins from an upgrader in Alberta's oil sands region.

Yonas Kebede

Director,
Polypropylene Sales & Marketing

Yonas joined Inter Pipeline, and Heartland Polymers, in 2019 after spending 18 years at a leading plastics manufacturer. He started his career selling polyethylene and polypropylene for Quantum Chemical (today part of LyondellBasell) out of their New Jersey office. The opportunity to build a modern-day polymer company from the ground up – integrating leading sustainability measures with an unparalleled customer service model – was what drove Yonas to join Heartland Polymers. Yonas holds a B.S. in Engineering from Michigan State University and resides in Northern New Jersey.

David Marnalse, P. Eng.,

Senior Account Manager,
Polypropylene

David brings more than 20 years of experience to his role with the Heartland Polymers team and is most looking forward to delivering a new and more efficient customer experience to help the industry meet the challenges of modern production. David holds a Bachelor of Science Structural Engineering and has worked across many facets of the industry. He is extremely excited by advances in social and environmental sustainability demonstrated by Heartland Polymers and looks forward to even better things ahead.

Alberto Blanco,

Senior Account Manager,
Polypropylene

Alberto is a seasoned account manager and business development specialist. Prior to joining Heartland Polymers, he worked in chemical distribution where he focused on sales of specialty additives and polyolefins to the color compounding, construction and agricultural industries. Afterwards, he joined a global Fortune 1000 company where he specialized in sales of fluoroplastics and specialty additives to the compounding, automotive and consumer electronics industries in North American and LATAM markets.

Matt McKinnon,

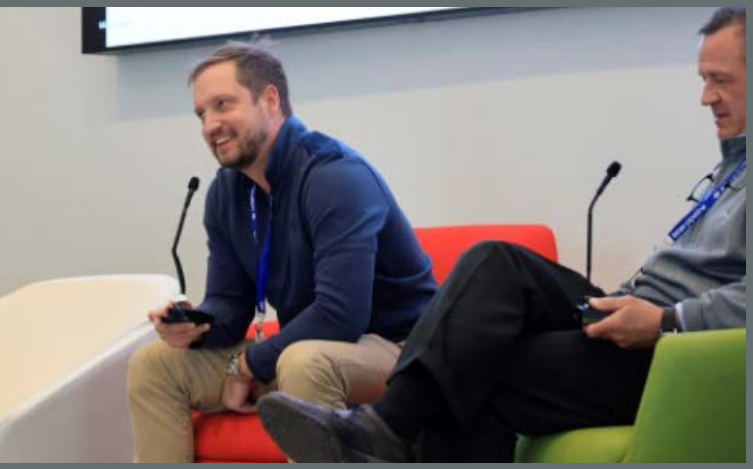
Senior Account Manager, Polypropylene

Matt joins Heartland Polymers with over 10 years of experience in the sales and marketing of plastic resin. He holds a Bachelors Degree in Finance from John Carroll University in Cleveland, Ohio. In 2017 Matt was named a rising star of the plastics industry by *Plastics News.* Prior to beginning his career in plastics, Matt was an investment banking analyst at KeyBanc Capital Markets where he gained experience in trading, corporate credit and M&A.

Julio Muzquiz,

Supervisor, Polypropylene Technical Service & Product Compliance

Julio brings unparalleled technical expertise to Heartland Polymers, backed by more than 25 years of providing polyolefins technical support for HDPE, LLDPE, PP resins. He has provided analytical and developmental support to customers using blown film, rotational molding, BOPP, woven and non woven PP, PP profile and stretch film conversion processes. He is highly engaged with the quality control process and adept at applying analytical tools for quality investigations and polymer characterization.



Connect with us today.

@heartlandPP

Heartland Polymers

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Visit HeartlandPolymers.com to discover the Heartland difference,
sign up to receive updates and connect with our customer success team.

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HEARTLAND POLYMERS SALES OFFICE

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Heartland Polymers is bringing fresh energy and new ideas to the global polymer industry as North America's only single-site PDH and PP producer. We're focused on shaping a superior customer experience from order to optimization: proven quality, sustainably produced PP products delivered with increased reliability via our rail network and storage-in-transit capabilities. Heartland Polymers is a business unit of Inter Pipeline with offices in Short Hills, New Jersey, and Calgary, Alberta.