



WENEW WENEW

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**Fostering
circular economy
for a more
sustainable future**

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The circular future is only possible together


At Braskem, we believe that the circular economy is the way to promote positive impact on the world and build a more sustainable future.

That is why Braskem created Wenen, its circularity ecosystem that helps to foster this new reality. A concept that was born to represent our work in favor of the circular economy and that identifies products, technologies, and initiatives focused on education and circular design promoted by Braskem.

We want to foster business and initiatives for post-consumer plastic waste valorization through partnerships with customers, brand owners, and the whole chemical and plastics value chain. After all, together we can make something new again and again.

Get to know our circular solutions. Come with us!



 Reducing plastic waste is part of Braskem's commitments to sustainable development.
[Learn more.](#)

How do we produce our circular solutions?

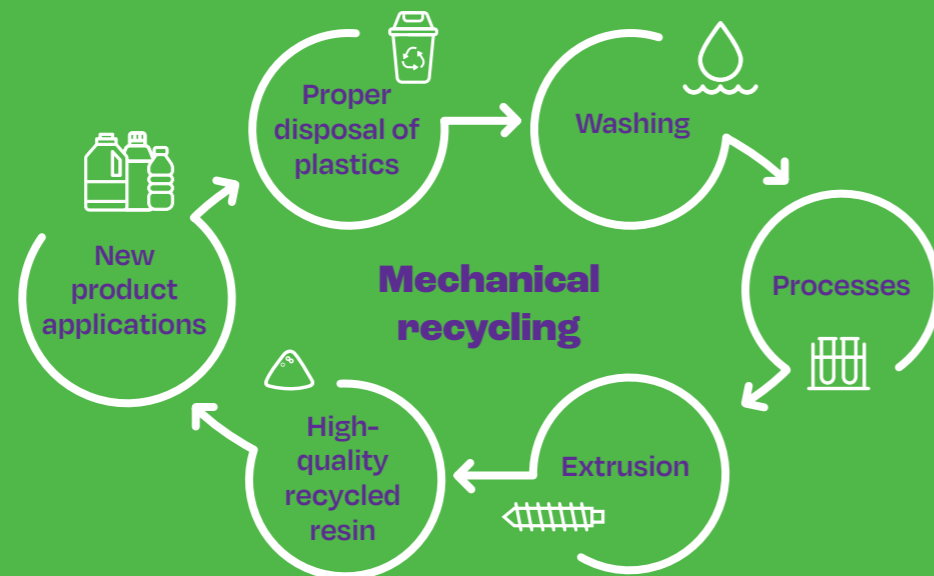
Braskem's circular products are the result of plastic waste recycling and recovery processes.

We invest in innovative recycling and waste recovery technologies because we want to go beyond this step by expanding the circular economy more and more. Get to know our Wenew portfolio!



Mechanical recycling

The process of crushing post-consumer plastic into smaller pieces that, after going through the extrusion process, are transformed into recycled resins for the most diverse applications.



Check on the next pages Wenew's global portfolio of products with recycled content.

Chemical Recycling

Process of breaking down post-consumption plastic molecules, with the alteration of its physical-chemical properties, to generate circular raw material used in the manufacturing of new chemicals or resins, with the same quality as the conventional ones and for the most diverse applications.

Braskem's units in Brazil, the United States and Europe have the ISCC Plus (International Sustainability and Carbon Certification) certification to produce chemicals and plastics from circular raw materials.



Braskem is investing in chemical recycling technology to soon make it a reality.

Waste recovery

Process for recovering products derived from the manufacture of other Braskem solutions, generating maximum use of raw materials and reducing waste.

Check out Wenew's portfolio of circular products on the following pages.

Make the shift your company and the world need

When you use our circular solutions in your products,
you are joining a new economy that is thriving and helping
to transform the world.



Wenew portfolio: get to know our circular solutions

Resins with recycled content

A portfolio of recycled polyethylene (rPE), polypropylene (rPP), ethylene-vinyl acetate (EVA) and polyvinyl chloride (rPVC) resins that unites high quality, performance, and sustainability.

Rigid

The concept of circular economy is increasingly present both in the design of rigid packaging and in its manufacturing process. Wenew's portfolio of resins for rigid products was developed to meet the needs of the most diverse markets, delivering quality, traceability, and safety, in line with the high technical requirements of the applications.



Food-grade options for packaging

Commercialization in the United States and Mexico

New grades
under development

Carbon neutral and low carbon solutions

for blow molding, injection molding & extrusion

Resins with post-consumer recycled and measurable renewable content

Flexibles

The transition to a circular economy brings a new look to the development of packaging and the communication of brands with the consumer. This transformation encompasses the understanding of new materials and concepts, extending to the importance of proper waste disposal and the summation of forces to achieve plastic circularity. Wenew's portfolio of resins for flexible products collaborates to add value to brands by ensuring quality, differentiation, and more sustainability.



Merely illustrative exemplary applications. The possibility of using this product for a specific purpose may change according to the country and should be analyzed by the interested party. Braskem does not guarantee the possibility of using the product with other materials for the desired application. Please check the RIS (Regulatory Information Sheet) or contact Braskem for specific regulatory information.

Circular Chemicals

The Wenew chemicals portfolio has circular options developed from the manufacturing process of other Braskem products or from the chemical recycling process.

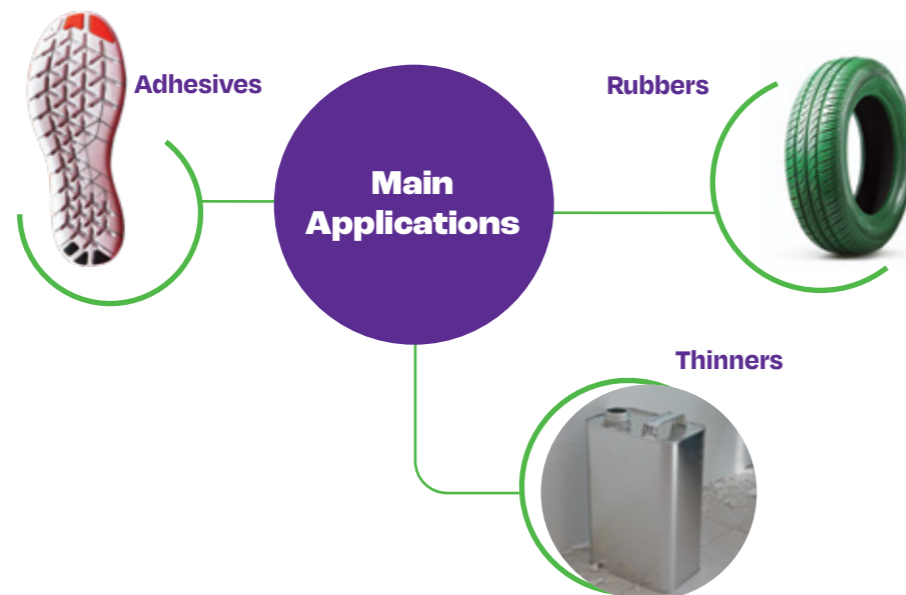
New solutions
under development

Maximum use
of raw material

Waste
Reduction

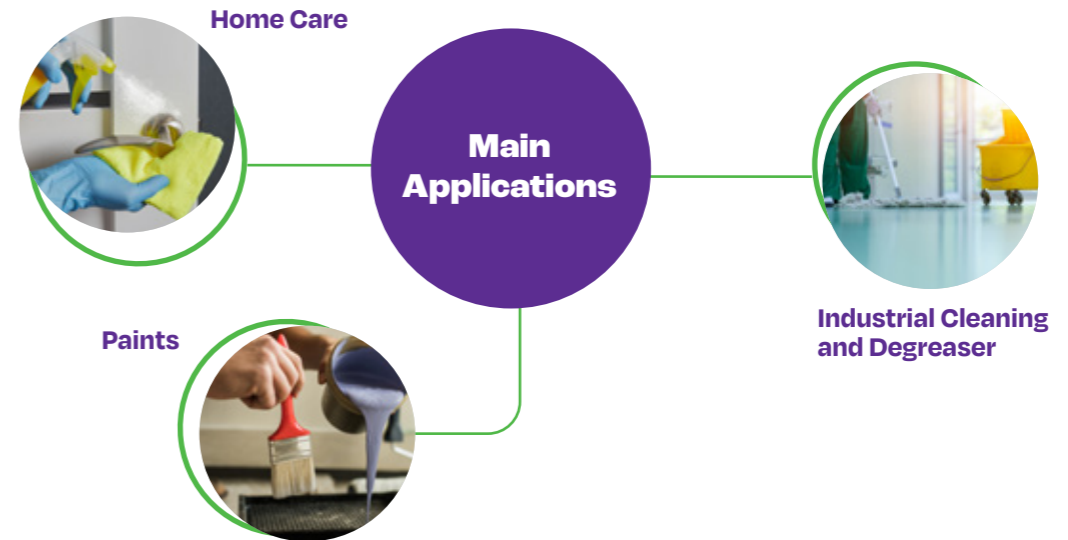
Circular Hexane

Braskem's first circular solvent, presents the market with a competitive and quality alternative, combining sustainability and performance in the same product. Aliphatic hydrocarbon solvent from the polyolefin production process, Circular Hexane can be applied in the adhesives, rubbers, and thinners markets, among others.



Circular Sensitis 17/21

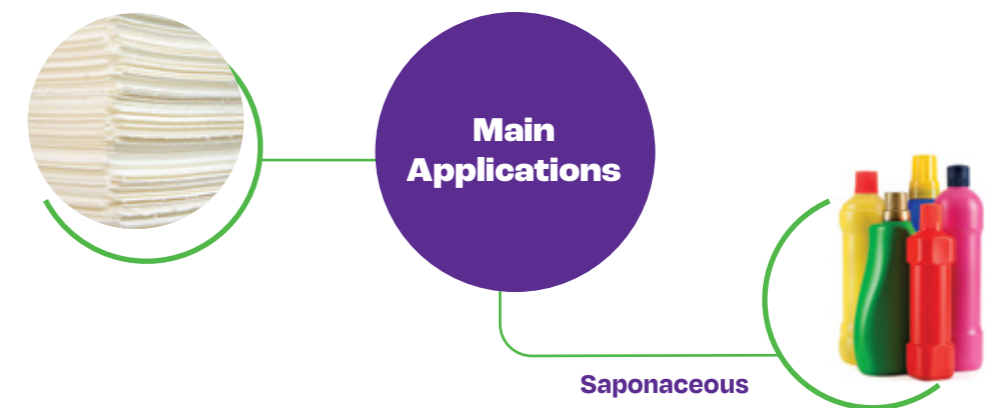
Sensitis 17/21 Circular is an isoparaffinic hydrocarbon solvent that combines circularity, local production and high performance, being a complete sustainable solution for different applications. Also obtained from the polyolefin production process, Sensitis 17/21 Circular has a very low concentration of aromatic compounds and low reactivity and toxicity, resulting in a solvent that is safer for people and the environment.



Circular Caustic

Recycled alkaline solution, originating from the recycling of an aqueous gas washing solution. It is an excellent sustainable alternative for the chemical replacement process due to its high caustification efficiency and presence of sulfides.

Pulp and paper packaging



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Wenew Portfolio

Braskem has circular solutions available in all the regions where it operates. A diversified portfolio that is constantly growing, the result of research and development to meet the needs of a changing world and to collaborate with the sustainability goals of our customers and brand owners.



Wenew Chemicals and Resins South America

Polyethylene

	FAMILY	CODE	APPLICATION	COLOR	MFI 190 °C/2.16 kg (g/10 min)	MFI 190 °C/5.0 kg (g/10 min)	DENSITY (g/cm³)	PROCESSABILITY	DROP TEST	CHEMICAL RESISTANCE	SEALABILITY	TEAR RESISTANCE
Rigid	HDPE	DA055A	Blow molding/Extrusion	White/Off white	0.15	-	0.960	**	***	***	-	-
	HDPE	DA065A	Blow molding/Extrusion	White/Off white	0.15	-	0.960	**	***	***	-	-
	HDPE	RPR 5C4 BK	Caps	Black	1.8	-	0.955	**	**	**	-	-
	HDPE	DAR 001A	Pipes/Extrusion	Black	-	0.55	0.955	***	-	***	-	-
	LLDPE	DL085C	Tubular Film	Natural	2.4	-	0.921	**	-	-	***	**
Flexible	LLDPE	DLR 002A	Stretch Hood	Natural	2.0	-	0.923	**	-	-	***	***
	LLDPE	RPL001 BE0	FFS/general bags	Blue/Translucid	0.4	-	0.925	**	-	-	***	**
	LLDPE	RPL001 WE0	Stretch/Coil (Tubular Film)	White	0.4	-	0.925	**	-	-	***	**

Polypropylene

	FAMILY	CODE	APPLICATION	COLOR	MFI 230 °C/2.16 kg (g/10 min)	PROCESSABILITY	STIFFNESS	DROP TEST
Rigid	PP HOMO	RPH 0J7 BK	Injection Molding	Black	10	**	***	*
	PP HOMO	RPH 0J7 GY	Injection Molding	Grey	10	**	***	*
	PP COPO	RPP237 BK6	Injection Molding	Black	24	***	**	**
	PP HOMO	RPP237 BK7	Injection Molding	Black	12	**	***	*
	PP COPO	RPP237 WE6	Injection Molding	White	24	***	**	**
	PP HOMO	DP 237E	Injection Molding	White/Off white	12	**	***	*
	PP HOMO	DP 241	Raffia	Grey	6.5	***	-	-

Wenew Chemicals and Resins South America

Polyvinyl Chloride

	FAMILY	CODE	APPLICATION	COLOR	MOISTURE CONTENT	PARTICLES > 20 MESH	IRON PARTICLES	SHORE A HARDNESS
Rigid	PVC	COMP PVC PCR RIG 1	Construction - Profiles, flooring, etc.	Standard	< 0.5%	≤ 0.1%	Absent	-
Flexible	PVC	COMP PVC PCR FLX 1	Flexible products - shoes, laminates, hoses, etc.	Grey	< 0.5%	-	-	> 85

Ethylene Vinyl Acetate Copolymer

	FAMILY	CODE	APPLICATION	COLOR	PROCESSABILITY	VINYL ACETATE CONTENT (%)	SHRINKAGE	HARDNESS
Rigid	EVA	RVA001 NL6	Expanded and reticulated boards for the footwear, furniture and other industries.	Natural	**	**	***	**
Flexible	EVA	RSVA002 NL5	Injection Molding, Shoesoles	Natural	***	***	**	***

Caustic Circular

RELATIVE DENSITY (g/l)	PH	BOILING POINT (°C)	MELTING POINT (°C)
1	14	100	-5

Circular Hexane Aliphatic Hydrocarbons

RELATIVE EVAPORATION RATE (BUTYL ACETATE = 100)	HANSEN SOLUBILITY PARAMETERS ((J/cm ³) ^{1/2})			SOLUBILITY (% mass) at 20°C		FLASH POINT (°C)	DISTILLATION RANGE AT 760 mmHg (°C)	DENSITY (20/4 °C)
	δD	δP	δH	SOLVENT IN WATER	WATER IN SOLVENT	CLOSED CUP		
830	14.9	0.0	0.0	IMMISCIBLE	IMMISCIBLE	-26.0	58 - 80	0.670

Circular Sensitis 17/21 Isoparaffinic Hydrocarbons

RELATIVE EVAPORATION RATE (BUTYL ACETATE = 100)	HANSEN SOLUBILITY PARAMETERS ((J/cm ³) ^{1/2})			SOLUBILITY (% mass) at 20°C		FLASH POINT (°C)	DISTILLATION RANGE AT 760 mmHg (°C)	DENSITY (20/4 °C)
	δD	δP	δH	SOLVENT IN WATER	WATER IN SOLVENT	CLOSED CUP		
8	15.4	0.0	0.0	IMMISCIBLE	IMMISCIBLE	52.0	170 - 210	0.750

Wenew Chemicals and Resins North America

Polyethylene

	FAMILY	CODE	APPLICATION	COLOR	MFI 190 °C/2.16 kg (g/10 min)		DENSITY (g/cm³)	PROCESSABILITY	STIFFNESS	DROP TEST	CHEMICAL RESISTANCE	SEALABILITY	TEAR RESISTANCE	FOOD CONTACT
					Min	Máx								
Rigid	HDPE	RPR 3A1 NL	Blow molding/Extrusion	Natural	0.38	0.955	***	***	***	***	-	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 5A1 WE	Blow molding/Extrusion	Natural	0.40	0.955	***	***	***	***	-	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 7A1 NL	Blow molding/Extrusion	Natural	0.18	0.955	***	***	***	***	-	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 0A2 NL	Blow molding/Extrusion	Natural	0.5	0.957	***	**	**	**	-	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 0A2 WE	Blow molding/Extrusion	White	0.44	0.963	***	**	**	**	-	-	-	No
	HDPE	RPR 0A2 GN	Blow molding/Extrusion	Green	0.44	0.963	***	**	**	**	-	-	-	No
	HDPE	RPR 0A2 BL	Blow molding/Extrusion	Blue	0.44	0.963	***	**	**	**	-	-	-	No
	HDPE	RPR 0A2 RD	Blow molding/Extrusion	Red	0.44	0.963	***	**	**	**	-	-	-	No
	HDPE	RPR 0A2 GY	Pipes/Blow molding/Extrusion	Dark Gray	0.47	0.959	***	**	**	**	-	-	-	No
	HDPE	RPR 0A2 BE	Pipes/Blow molding (big volume)	Dark Blue	0.5	0.950	***	**	**	**	-	-	-	No
Flexible	HDPE	RPR 3G2 WE	Injection Molding	White	5	0.957	***	**	-	**	-	-	-	No
	LDPE	RPL 5A1 NL	Film Extrusion	Natural	0.6	0.921	**	-	-	-	***	**	-	No
	LDPE	RPL 5C1 NL	Film Extrusion	Natural	1.85	0.921	**	-	-	-	***	**	-	No
	LDPE	RPL 0C2 NL	Film Extrusion	Natural	1.25	0.927	**	-	-	-	***	**	-	No

Polypropylene

	FAMILY	CODE	APPLICATION	COLOR	MFI 230 °C/2.16 kg (g/10 min)		PROCESSABILITY	STIFFNESS	DROP TEST	DIMENSIONAL STABILITY	FOOD CONTACT	
					Min	Máx						
Flexible	PP COPO	RP112 GY2	Thermoforming	Gray	3	-	-	-	-	-	This product meets the requirements for certain FDA Food Contact Applications	
	PP COPO	RPP117 GY2	Injection Molding - Caps & Closures	Gray	16	-	-	-	-	-	This product meets the requirements for certain FDA Food Contact Applications	
	PP COPO	RPP103 GY5	Injection Molding - Caps & Closures	Gray	22	-	-	-	-	-	No	
	PP COPO	RPP101 GY5	Extrusion	Gray	3	-	-	-	-	-	No	
	PP COPO	RPI OR2 BK	Compounding - Auto/Industrial	Black	35	-	-	-	-	-	No	
	PP COPO	RPI OR2 GY	Compounding - Auto/Industrial	Gray	35	-	-	-	-	-	No	
	PP HOMO	RPH OE1 NL	Blow molding/Thermoforming/Cast Film	Natural	2.5	***	**	-	-	***	-	Expected Apr/24
	PP HOMO	RPI008	Injection - Caps & Closures	Natural	8	**	**	-	-	***	-	Expected Apr/24

Wenew Chemicals and Resins Europe

Polyethylene

	FAMILY	CODE	APPLICATION	COLOR	MFI 190 °C/2.16 kg (g/10 min)		DENSITY (g/cm³)	PROCESSABILITY	STIFFNESS	DROP TEST	CHEMICAL RESISTANCE	SEALABILITY	TEAR RESISTANCE	FOOD CONTACT
					Min	Máx								
Rigid	HDPE	RPR 3A1 NL	Blow molding/Extrusion	Natural	0.38		0.955	***	***	***	***	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 5A1 WE	Blow molding/Extrusion	Natural	0.40		0.955	***	***	***	***	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 7A1 NL	Blow molding/Extrusion	Natural	0.18		0.955	***	***	***	***	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	RPR 0A2 NL	Blow molding/Extrusion	Natural	0.5		0.957	***	**	**	**	-	-	This product meets the requirements for certain FDA Food Contact Applications
	HDPE	DA 070D	Blow molding/Extrusion	Olive green	0.3		> 0.945	***	**	-	-	-	-	No
	HDPE	DA 072D	Blow molding/Extrusion	Olive green	0.3		> 0.945	***	**	-	-	-	-	No
	HDPE	RDH 002A	Blow molding/Extrusion	Natural	0.5		> 0.945	***	***	-	-	-	-	No
	HDPE	RDH 003A	Blow molding/Extrusion	White	0.5		> 0.945	***	***	-	-	-	-	No
	HDPE	RDH 004A	Blow molding/Extrusion	Light grey	0.3		> 0.945	***	***	-	-	-	-	No
	HDPE	RDH 005A	Blow molding/Extrusion	Natural	0.4		> 0.945	***	***	-	-	-	-	No
	HDPE	RDH 009A	Injection molding	Grey	5		>0.945	**	**	-	-	-	-	No
	HDPE	DA 080A	Injection molding	Green	4		>0.945	**	***	-	-	-	-	No
	HDPE	DA 079A	Injection molding	Green	2.5		>0.945	**	**	-	-	-	-	No
Flexible	LLDPE	RDL 001A	Film extrusion	Amber	1.2		< 0.940	**	-	-	-	***	**	No
	LLDPE	RPL 0C2 WE	Film extrusion	White	0.6		< 0.940	***	-	-	-	***	***	No
	LLDPE	RGL 5C2 WE	Film extrusion	White	0.8		< 0.940	***	-	-	-	***	***	No
	LLDPE	RDL 004A	Film extrusion	Natural	0.6		<0.940	***	-	-	-	***	**	No

Polypropylene

	FAMILY	CODE	APPLICATION	COLOR	MFI 230 °C/2.16 kg (g/10 min)		PROCESSABILITY	STIFFNESS	DROP TEST	DIMENSIONAL STABILITY	FOOD CONTACT
					Min	Máx					
Rigid	PP COPO	DP 234A	Injection molding	Grey	40		***	**	***	-	No
	PP COPO	DP 234B	Injection molding	Anthracite	40		***	**	***	-	No
	PP COPO	DP 235A	Injection molding	Grey	12		***	***	**	-	No

Braskem: Global presence

With a global, human-oriented vision of the future, Braskem strives every day to improve people's lives by creating sustainable solutions in chemistry and plastics. Braskem is the largest producer of thermoplastic resins in the Americas and a global leader in the production of biopolymers on an industrial scale. Our products are exported to some 70 countries and we count on 40 industrial units, located in Brazil, the United States, Germany and Mexico (in partnership with Mexican company Idesa).

For more information, visit www.braskem.com.



+
8.000
team
members



40
industrial
units

29 plants in Brazil
5 plants in USA
4 plants in Mexico
2 plants in Germany

Export to
customers in about

70
countries



6 largest producer
in PE, PP and PVC

#1 Producer PE, PP and
PVC in the **Americas**

#1 PP producer in
North America

#1 PE, PP and PVC
producer in
Latin America





The transition to the circular economy has already begun. Let's be part of this journey together?

Talk to our team!