

CHEMISTRY THAT MATTERS™



CREATING COMFORT WITH HIGHER EFFICIENCY

MATERIALS FOR PERSONAL AND PROFESSIONAL HYGIENE
APPLICATIONS TO SUPPORT CONSUMER WELL-BEING





INCREASING FUNCTIONALITY REDUCING COMPLEXITY

SABIC IS A STRATEGIC SOLUTION PROVIDER FOR NONWOVENS WITH NEW MATERIAL TECHNOLOGIES THAT CAN ENABLE THE INDUSTRY TO MAKE LIGHTER, SAFER AND FUNCTIONAL PERSONAL AND PROFESSIONAL HYGIENE APPLICATIONS THAT ARE EFFICIENT, COMFORTABLE AND SUSTAINABLE.

Innovating with customers to enhance performance and sustainability. This is “Chemistry that Matters™”.



GLOBAL TRENDS

The global personal hygiene market is expanding due to increased awareness amongst a rising worldwide population, a rising female workforce and a growing elderly public. The growing population in countries, such as China and India is a major driving force for the demand for baby diapers, which is influencing the growth of the Asia-Pacific hygiene market.

Due to the growth of the aging population, which is expected to reach two billion by 2050 according to a United Nations report*, the use of adult incontinence products is also increasing. As the buying power of consumers is growing, they are spending more on personal and baby hygiene. Good hygiene is crucial for disease prevention and the promotion of better health and well-being.

The hygiene industry is focusing more on how to deliver the performance of nonwovens but improve their functionalities; such as purity, softness and moisture absorption, to support consumer, convenience and comfort. In addition to compliance with hygiene regulations, increased cost-efficiency is an important requirement of the industry.

* UN DESA report, "World Population Prospects: The 2015 Revision"

UNLOCKING OPPORTUNITIES

SABIC shares your commitment to innovation, quality and consistency. We are dedicated to enabling hygiene solutions that will help improve quality of life. To support our customers with changing requirements in the industry, SABIC engages with value chain partners on hygiene industry trends and continues to develop new materials and processing expertise. Our solutions aim to support brand owners and converters with their challenges in compliance with hygiene regulations, increased functionality and cost-efficiency.

Creating a focused industry segment with a global market-facing organization dedicated to hygiene applications is part of our strategy. Our aim is to effectively support customers' need for innovation, service and application development - based on global and local requirements.

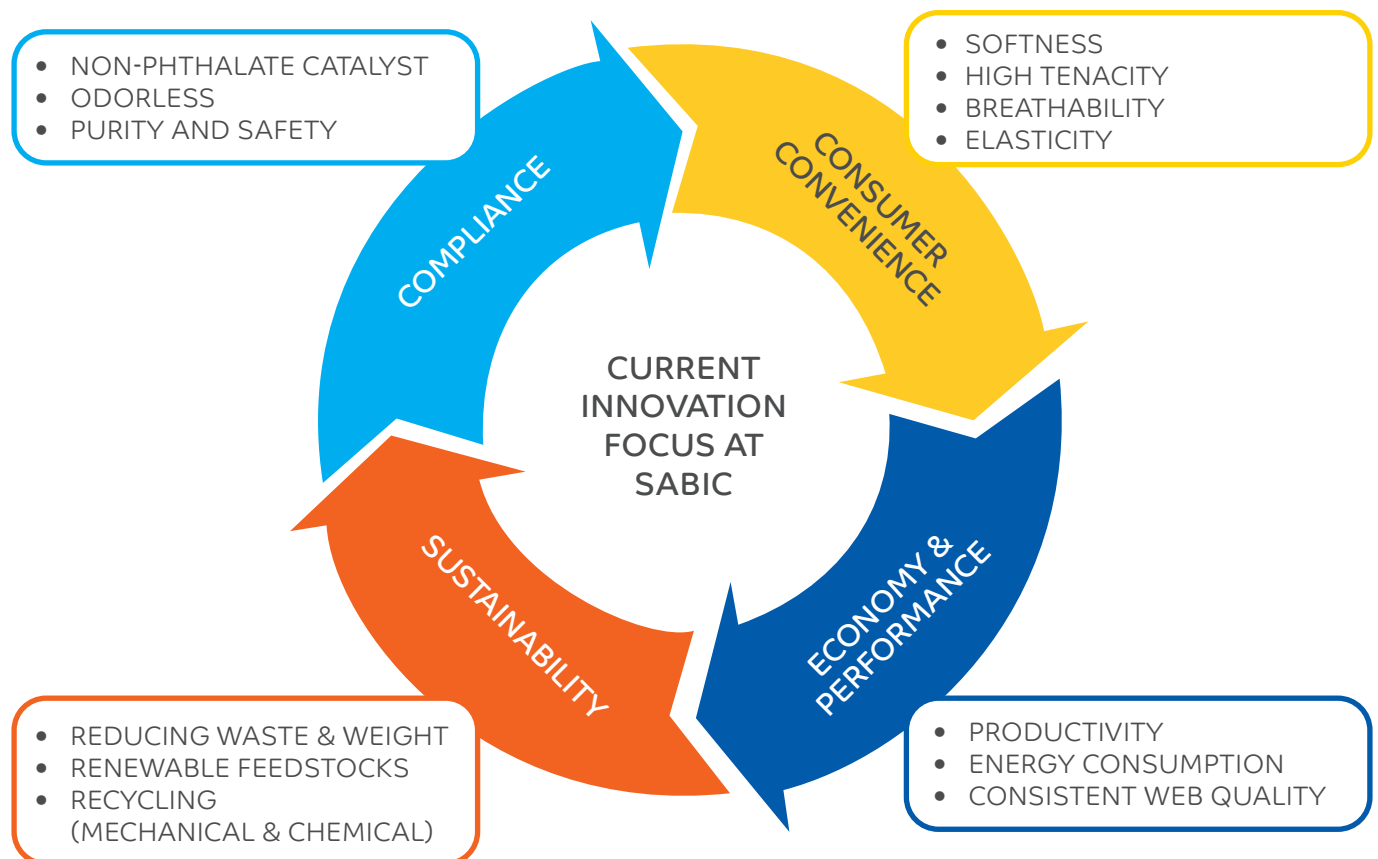
As a strategic supplier of new material solutions to the market, we are committed to making a significant contribution to the success of our customers by continuously raising the standard of quality and performance, ensuring long-term reliability and building valuable relationships to leverage mutual growth opportunities.



TYPICAL INDUSTRY TRENDS

The hygiene industry is a demanding market in terms of technical performance and other properties of nonwovens such as softness, pureness, and moisture absorption. For applications in which nonwovens are used; whether baby care, feminine hygiene, adult incontinence, medical disposable or surgical gowns (scrub suits), performance can be driven by the correct material selection.

The industry is constantly seeking advanced material solutions which are helping manufacturers to expand innovations for consumer safety and convenience, function, sustainability, and cost control.



SABIC SOLUTIONS FOR THE PERSONAL HYGIENE INDUSTRY

As a strategic material solutions provider to the sector, SABIC is working with its customers to create hygiene products by offering a broad portfolio of polymers for nonwovens, film and laminates.

FOR NONWOVENS

SABIC® POLYMERS

- PP, PE FOR SPUNBOND FIBERS
- ULTRA HIGH MELT BLOWN FIBERS
- STAPLE FIBERS

FOR FILM & LAMINATES USED IN HYGIENE APPLICATIONS

SABIC® POLYMERS

- HDPE
- LDPE
- LLDPE
- m-LLDPE SUPEER™
- PLASTOMERS COHERE™
- SABIC® PP CAST FILM

EXAMPLE APPLICATION

A - TOP SHEET:

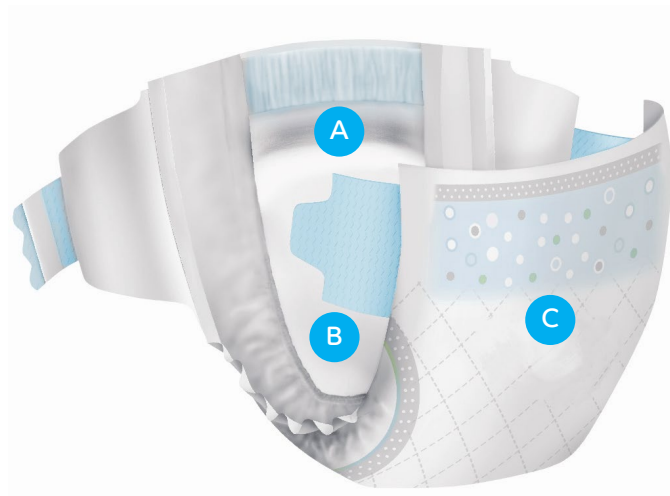
SABIC® PP NONWOVEN IN STRUCTURE OF SMS/SMMS*

B - ACQUISITION LAYER:

e.g. BARRIER LEG CUFF
SABIC® PP NONWOVEN:
SMS/SMMS

C - BACKSHEET:

SABIC® PP NONWOVEN
LAMINATED WITH PE-FILMS



* S: SPUNBOND, M: MELTBLOWN







CARING FOR THE FUTURE

The SABIC PURECARES™ portfolio includes PP and PE polymer solutions for personal and professional hygiene applications, which can help support consumer well-being and convenience, compliance with hygiene regulations, increased functionality and cost-efficiency.

We push the limits of quality, efficiency, and performance to drive customer success in personal hygiene segments with our material solutions for nonwoven and hygiene film applications.



SABIC PURECARES™ PORTFOLIO OF MATERIAL SOLUTIONS

SABIC PURECARES™ is the new product portfolio brand name for our polyolefin products for personal hygiene applications. SABIC PURECARES™ is representing phthalate free (PHF) and TNPP - tris(nonylphenyl) phosphite - free technologies that are used for our products and enabling comfort for consumers. Our new product family is aimed to help our customers produce safe and pure materials for advanced functionality and softness for nonwovens and hygiene films: which ultimately aim to support consumer well-being, convenience and comfort in compliance with hygiene regulations.

SABIC® PP-FIBER GRADES FOR LIGHTWEIGHT, NONWOVEN FABRICS IN HYGIENIC APPLICATIONS

- Latest Reicofil¹ technology
- Made with phthalate-free catalyst technology
- Available globally

TABLE 1: SABIC PRODUCT PORTFOLIO FOR NONWOVEN FABRICS, TYPICAL POLYMER VALUES

All products listed below have density 905g/cm³

	Grade	Process	MFR* (g/10 min)	Characteristics
SABIC® PP HOMOPOLYMER	510A/510P		10-12	
	515A	Staple fiber	24	<ul style="list-style-type: none"> • Anti gas fading stabilization • Broad Molecular Weigh Distribution)
	518P		25	
	511A	Spunbond	25	<ul style="list-style-type: none"> • The narrow molecular weight distribution • Anti gas fading stabilization package
	519A	Spunbond	35	<ul style="list-style-type: none"> • Good balance of mechanical properties and softness • Very narrow molecular weight distribution • Anti gas fading stabilization package
	514M12	Meltblown	1200**	<ul style="list-style-type: none"> • Very narrow molecular weight distribution • Made with odor-free technology without peroxides • Provide enhanced nonwoven barrier properties

* MFR-melt flow rate measured at 230°C under a load of 2.16 kg

** Melt flow rate of meltblown fabric processed at 275-300°C

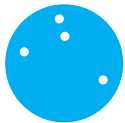
1) Reicofil is a brand of Reifenhäuser Reicofil GmbH & Co. KG.

CREATING SOFTNESS FOR NONWOVENS

Definition for softness varies in different regions. For example in Europe and North America, it resembles a more cotton-like feeling, with fluffy and crimped fibers; whereas in Asia it's a silk-like feeling with a smooth surface. SABIC is a comprehensive solutions provider for different market needs. We have developed several potential soft touch solutions to answer our customer's needs:



CORE/ SHEATH PP/PE
BI-COMPONENT FIBERS **NEW!**



ADDITIVATION OF PP
MONO-COMPONENT FIBERS



INHERENTLY SOFT PP
MONO-COMPONENT FIBERS **NEW!**



ULTRA-HIGH MELT FLOW PP FOR LIGHTWEIGHT BREATHABLE NONWOVEN FABRICS

SABIC PURECARES™ PP 514M12 POLYMER FOR MELT BLOWN FIBERS

SABIC introduced an innovative new polypropylene (PP) ultra-high melt flow product engineered for melt blown fibers in nonwoven fabrics. The new product, designated SABIC® PP 514M12, can serve a wide range of potential end-uses in personal hygiene applications. SABIC® PP 514M12 polymer is produced with phthalate- and peroxide-free technology, offers good processability with fiber uniformity, high barrier properties and breathability in lightweight webs for nonwovens, thus enhanced consumer comfort. The new product is supplied in regular pellet form, which facilitates handling, storage and use.



Introducing this new PP-grade, SABIC is having full portfolio offer for spun bond-melt blown nonwoven applications, globally available, phthalate-free technology.

TABLE 2: SABIC® PP 514M12 TYPICAL POLYMER VALUES

PROPERTIES	UNIT	VALUE	TEST METHODS
Final Melt Flow Rate @ 230°C and 2.16 kg ^{2**}	g/10 min	1200	SABIC test Method
Melting Temperature (DSC)	°C	158/160	ASTM D3418
Density	KG	905	ASTM D1505

** MFR-elt flow rate of meltblown fabric processed at 275-300°C

Please note that SABIC melt blown PP resin requires slightly higher temperature than conventional melt blown resins.



SAFE AND PURE

PHthalate-FREE TECHNOLOGY,
PEROXIDE-FREE AND ODOR-FREE TECHNOLOGY



EASY HANDLING

PELLET FORM FACILITATES EASY HANDLING & STORAGE



VERY GOOD NONWOVEN PROPERTIES

FIBER UNIFORMITY, VERY GOOD BARRIER PROPERTIES,
HIGH QUALITY AND LIGHTWEIGHT WEBS



SABIC PRODUCT PORTFOLIO FOR FILM & LAMINATES USED IN HYGIENE APPLICATIONS

POTENTIAL BENEFITS OF SABIC MATERIALS

- Global availability and supply
- Safety and purity: FDA compliance and PHF (phthalate-free) and TNPP ((tris (nonylphenyl) phosphite))- free technologies
- Good film appearance, with high consistency film grades
- High mechanical strength, enabling down-gauging opportunities
- Good processability for high-speed production lines

POTENTIAL APPLICATIONS FOR FILMS AND LAMINATES

- Back sheets breathable film
- Elastic films for back sheets
- Laminates
- Top sheets
- Perforated films for top sheets

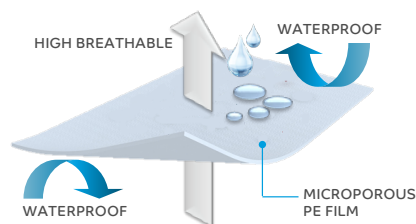


TABLE 3: SABIC POLYOLEFIN GRADES PORTFOLIO FOR HYGIENE FILM APPLICATIONS (CAST AND BLOWN FILM)

	SABIC® HDPE POLYMER	SABIC® LDPE POLYMER	SABIC® LLDPE POLYMER	SABIC® C8 M-LLDPE POLYMER	SABIC® PLASTOMERS	SABIC® PP POLYMER
Grades	F04660	2101N0W	218NJ	SUPEER™ 8112	COHERE™ 8102	526P
	F0863	2201H1W	6118N	SUPEER™ 8115	COHERE™ 8402	621P
	M80064	2602HOW	6218BE	SUPEER™ 8315	COHERE™ 8570D	
		HP0823JN	6318BE	SUPEER™ 7118NE	COHERE™ S100	
		HP2027NN	6335BE	SUPEER™ 7318BE		
		HP4024N				

For specific grade selection please contact SABIC technical team

MAKING A DIFFERENCE



Our material solutions for the personal hygiene industry are aimed to support consumer well-being, comfort in compliance with hygiene regulations and meet the environmental and sustainability demands of today's society, either addressing waste reduction through down gauging and light weighting, or designing resins contributing to circular solutions. By supporting the growth and development of a circular economy, SABIC adapts its processes to the use of renewable and recycled feedstock, and to create durable, recyclable product design solutions for its customers.

SABIC IS COMMITTED TO DEVELOP CIRCULAR SOLUTIONS AND REDUCING PLASTICS WASTE

While plastics make modern life possible, solutions are needed to minimize and manage plastic waste and promote reusing, recovering and recycling. SABIC is committed to developing circular solutions and reducing plastics waste through inspiring processes for bio-renewable and recycled feedstock, and designing product solutions for its customers in diverse industries which supports recyclability, durability and optimal reuse.

* SABIC internal lifecycle analysis of SABIC® PP 519A spunbond resin versus standard PP spunbond resin, ISO 14044 peer review pending



WASTE REDUCTION THROUGH DOWN GAUGING AND LIGHT WEIGHTING

Every 1 kg of SABIC® PP Spunbond Fiber goes into baby diaper application help save 0.56 kg CO₂ and 0.20 kg waste*.

20% LESS WASTE GENERATED
AT THE END OF LIFE

13% LESS GHG EMISSIONS
LESS ENERGY DEMAND
LESS MATERIAL CONSUMPTION

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