

A full-page background image of a surfer in a black wetsuit riding a large, curling blue wave. The surfer is positioned in the lower right quadrant of the frame, leaning forward on a green surfboard. The water is a vibrant blue, and the sky is a clear, bright blue. The overall scene is dynamic and energetic.

OPPANOL® PIB by BASF

Made to innovate
– designed to stay ahead

 **BASF**

We create chemistry

DISCOVER THE WIDE RANGE OF OPPANOL®

OPPANOL® PIB BY BASF MORE THAN JUST POLYISOBUTENE

Polyisobutene (PIB) has been a core business of BASF for more than 85 years. As one of the world's leading producers of PIB, we proudly offer the broadest range of polyisobutenes with different molecular weights. With customers located all over the world, our PIB team acts globally by maintaining strong and caring customer contact across all regions. Our new OPPANOL® N, based on an innovative production process, marks the latest addition to our portfolio.

Polyisobutene/Polyisobutylene



One product – many opportunities

- Demonstrates superb barrier properties
- Enables excellent properties in adhesives and sealants
- Cold flow enables self-healing process of sealants and coatings
- High product purity for applications with high quality standards
- Tack to almost all surfaces
- Removable without leaving a trace

There is a good reason why we at BASF refer to our polyisobutene as 'the global all-rounder': The unique range of properties, combined in a single product, make our OPPANOL® the solution for a diverse spectrum of different applications. Polyisobutene is suited to enhancing manufacturing processes and product effectiveness. Depending on the challenge at hand, the OPPANOL® polyisobutene product family can enable formulations that provide a water vapor barrier, electrical insulation, good adhesion, flexibility at low temperatures (cold flow) or no skin irritation. Our customers can meet their specific requirements by combining the various grades of OPPANOL® to enable tailored solutions. Building on BASF's unique strength to be the market's reliable partner for PIB, this makes OPPANOL® the ideal solution for various applications in a wide range of industries, including the automotive, construction, packaging, electronics and food sectors.

OPPANOL®: SOLUTIONS FOR YOUR INDUSTRY



FOOD PACKAGING INDUSTRY

“A food grade component in the food packaging industry with excellent barrier and low temperature flexibility properties”

Applications (examples):

Still seals when others break



Retort Packaging



Resealable Packaging



Sealing Film



CHEWING GUM INDUSTRY

“A food grade specified component in the chewing gum industry improving the texture and flavor release of quality and functional gums”

Applications (examples):

More chew for your gum





LUBRICANT INDUSTRY

“The food-grade viscosity improver for various applications in the lubricant industry”

Applications (examples):

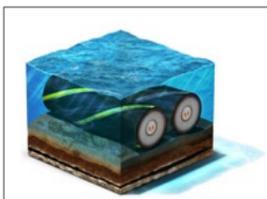
Where less leads to more	 Lubes	 Greases	 Chainsaw Oils
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ELECTRICAL AND ELECTRONICS

“An insulating component in the cable industry with excellent barrier and adhesion properties”

Applications (examples):

Holds back where others let go	 Tapes	 Filling Compound	 Circuit Boards
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CONSTRUCTION INDUSTRY

“A sealant component in the construction industry with excellent barrier and low thermal conductivity properties”

Applications (examples):

Protects and seals	 Glass Sealant / Solar Panels	 Roofing Membranes	 Pipeline Wrapping
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AUTOMOTIVE INDUSTRY

“A formulation component for the automotive industry for high performance protection and damping with superior adhesion and barrier properties”

Applications (examples):

Better stick and tighter fill	 Sound Damping	 Surface Protective Films	 Sealants
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SPORTS AND LEISURE

“An irritant-free component for the sports and leisure industry with excellent tackiness and water barrier properties”

Applications (examples):



OTHER INDUSTRIES

The various OPPANOL® grades are also used as a solution in other industries, for example, pest control. Are you ready to stay ahead with us and explore your possibilities?

OPPANOL®: OUR PRODUCTS

Medium Molecular Weight

OPPANOL® B	10 SFN	11 SFN	12 SFN	13 SFN	14 SFN	15 SFN
	10 N		12 N			15 N
Stabilizer [ppm] (average BHT concentration)	no	no	no	no	no	no
	500		500			500
Specification						
Staudinger Index Jo* [cm³/g]	27.5–31.2	30.7–36.0	34.5–39.0	39.0–43.0	42.5–46.4	45.9–51.6
Typical characteristics						
Average molecular weight M _v (viscosity average)	40,000	47,000	55,000	65,000	73,000	85,000
Average molecular weight M _w (weight average) Expressed in equivalents of PS	53,000		70,000			108,000
Average molecular weight distribution M _w /M _n	3.2		3.2			3.2
Volatiles, 150 °C, 4 h, 150 mbar [%]	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25	< 0.25
Fluorine [ppm]	< 5					
Chlorine [ppm]	< 5					
Ash content [ppm]	< 100					
Typical properties						
Appearance	transparent to slightly turbid					
Color	colorless to slightly yellow					
Glass transition temperature [°C]	-64					
Specific heat [kJ/(kg*K)]	2.0					
Heat conductivity [W/(m*K)]	0.19					
Relative permittivity (100 Hz, 1 mm, RT)	IEC 60250	2.7				
Specific resistance [Ωcm]	IEC 60093	10 ¹⁶				
Shear viscosity	details upon request					
Packaging	20 kg box, 45.4 kg drum					
Shelf life**	box: 2 years from date of production drum: 3 years from date of production					

High Molecular Weight

OPPANOL® N	50 SF			
	50	80	100	150
Stabilizer [ppm] (average BHT concentration)	no			
	500	500	500	500
Specification				
Staudinger Index Jo* [cm³/g]	128–150	178–236	241–294	416–479
Typical characteristics				
Average molecular weight M _v (viscosity average)	425,000	800,000	1,110,000	2,600,000
Average molecular weight M _w (weight average) Expressed in equivalents of PS	565,000	1,050,000	1,550,000	3,050,000
Average molecular weight distribution M _w /M _n	2.4	2.4	2.9	2.9
Volatiles, 150 °C, 4 h, 150 mbar [%]	< 0.3	< 0.3	< 0.3	< 0.3
Fluorine [ppm]	< 2			
Chlorine [ppm]	< 90			
Ash content [ppm]	< 200			
Typical properties				
Appearance	transparent to turbid			
Color	white to pale amber			
Glass transition temperature [°C]	-64			
Specific heat [kJ/(kg*K)]	2.0			
Heat conductivity [W/(m*K)]	0.19			
Relative permittivity (100 Hz, 1 mm, RT)	IEC 60250	2.7		
Specific resistance [Ωcm]	IEC 60093	10 ¹⁶		
Shear viscosity	details upon request			
Packaging	20 kg bag: N 50 easy peel; N 80-150 easy peel/dispersible			
Shelf life**	3 years from date of production			

* The Staudinger Index Jo represents the viscosity of OPPANOL® solutions in isoctane at 20 °C

** Dry storing conditions, ambient temperatures, no direct sunlight

Properties at Glance

-  Food Packaging
-  Chewing Gum
-  Automotive
-  Sports and Leisure
-  Electrical and Electronics
-  Construction
-  Lubricant

Adhesion							
Barrier to water / moisture vapor / oxygen							
Corrosion preventative							
Electrical insulation							
Energy efficiency							
Environmental friendly							
Flexibility							
Foodcontact approved							
Good compatibility (polymers, resins)							
Grip							
Not hazardous							
Self-healing							
Skin-irritant free							
Smooth removal							
Tackifier							
Texture improver							
Viscosity improver							

ONE PRODUCT FAMILY, MANY APPLICATIONS

BASF's OPPANOL® product range is suited to enhancing manufacturing processes and product effectiveness in a wide range of different applications.

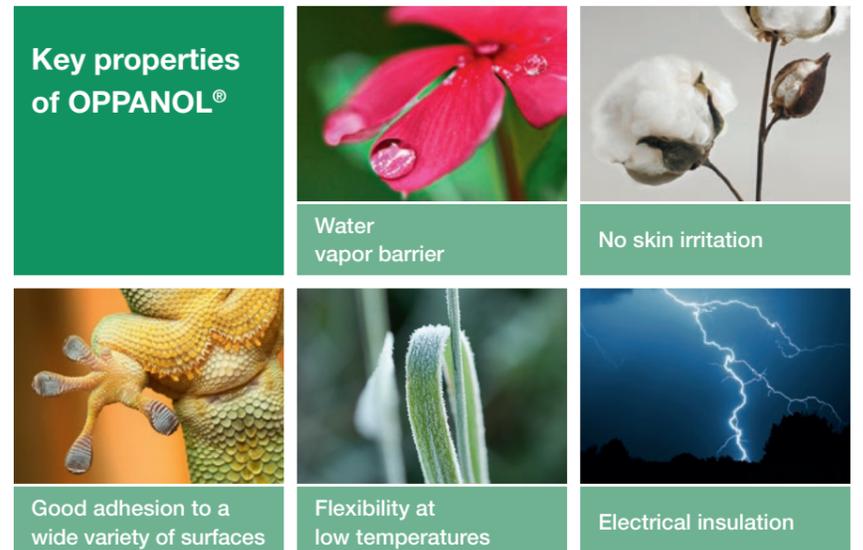
Nature's properties delivered via a single product

OPPANOL® works both as a protective barrier and an adhesive. It is flexible yet mechanically stable. It encounters slight degradation over time when exposed to UV light. However, by virtue of its chemical backbone it is substantially more stable than other elastomers including butyl rubber.

It can be used in protective films or acoustic barriers within the automotive industry or in roofing membranes within the construction industry.

Wherever it is used, OPPANOL® provides quality, certainty, dependability and effectiveness. All backed by BASF's unrivalled global support network and reputation for customer care.

Key properties of OPPANOL®



Certified

Depending on the industry and application, OPPANOL® has numerous certifications such as Food Contact US and EU, Food Additive in several regions and countries, QM and/or ethical certifications. To learn more about our certifications in your industry and application, please visit: <https://products.basf.com/en/Oppanol.contact.html>



ISO 9001: 2015 (Quality Management System)

Kosher and Halal Certified

Relevant documents for Food and Gum regulations

Relevant food safety systems for OPPANOL®

- HACCP Certified for OPPANOL® B grades
- HARPC plan implemented for OPPANOL® N grades

Environmental/Energy certified

- ISO 14001: 2016 for OPPANOL® N grades
- ISO 50001: 2011 for OPPANOL® B grades

Food Safety System Certification 22000 (FSSC 22000) for OPPANOL® B grades

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BASF produces a wide variety of high quality polyisobutylenes marketed by BASF under the trademark OPPANOL[®] that satisfy the manifold requirements of our customers, including products that may meet the specifications for use in food, medical, pharmaceutical or cosmetics applications. BASF has proven expertise in supporting and working with our customers in the innovative use and application of our materials. However, BASF has not designed or tested its OPPANOL[®] grades with respect to special requirements related to their use in medical devices (defined in the European, US or other local medical device legislation), pharmaceuticals and cosmetics. In view of the many factors that may affect the processing and use of our OPPANOL[®], the data in this publication do not relieve processors of the responsibility to carry out their own inspections and tests, neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior notice and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient to ensure that all proprietary rights, laws and legislation are observed. BASF does not recommend the use of or claim the suitability of OPPANOL[®] in a specific application and, therefore, the decision to use OPPANOL[®] is solely at the customer's own risk. It is the responsibility of the customer to determine whether their manufacturing process and the end application using OPPANOL[®] is safe, lawful and technically suitable for the intended use. BASF extends no warranties or guarantees, express or implied, concerning the suitability of OPPANOL[®] for any specific application, especially for a possible use in medical, pharmaceutical or cosmetics applications. Moreover, BASF does never supply its OPPANOL[®] products for the manufacture of implants.