OPPANOL®
PIB by BASF
Made to innovate – designed to stay ahead
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.

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.

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
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

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

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

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
SPORTS AND LEISURE

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

Applications (examples):

- Better grip and more fun
- Surfing Waxes
- Cross-country Skiing

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® B

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**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<sub>v</sub> (viscosity average): 40,000, 47,000, 55,000, 65,000, 73,000, 85,000
- Average molecular weight M<sub>w</sub> (weight average): 53,000, 70,000, 108,000
- Average molecular weight distribution M<sub>w</sub>/M<sub>n</sub>: 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<sup>8</sup>
- Shear viscosity: details upon request

**Packaging**

- 20 kg box, 45.4 kg drum

**Shelf life**

- 2 years from date of production
- 3 years from date of production

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### OPPANOL® N

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**Specification**

- **Staudinger Index Jo** [cm³ / g]: 128–150, 178–236, 241–294, 416–479

**Typical characteristics**

- Average molecular weight M<sub>v</sub> (viscosity average): 425,000, 800,000, 1,110,000, 2,600,000
- Average molecular weight M<sub>w</sub> (weight average): 565,000, 1,050,000, 1,550,000, 3,050,000
- Average molecular weight distribution M<sub>w</sub>/M<sub>n</sub>: 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<sup>8</sup>
- 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

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

** Dry storing conditions, ambient temperatures, no direct sunlight
BASF’s OPPANOL® product range is suited to enhancing manufacturing processes and product effectiveness in a wide range of different applications. 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.

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

### ONE PRODUCT FAMILY, MANY APPLICATIONS

Nature’s properties delivered via a single product

**Key properties of OPPANOL®**

- Water vapor barrier
- No skin irritation
- Good adhesion to a wide variety of surfaces
- Flexibility at low temperatures
- Electrical insulation

**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
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BASF SE does not recommend the use of or claim the suitability of OPPANOL® in any application and, therefore, the decision to use OPPANOL® is solely at our customer’s own risk. It is the responsibility of our customer to determine whether their manufacturing process and the end application using OPPANOL® is safe, lawful and technically suitable for the intended use. Hence, BASF SE extends no warranties or guarantees, express or implied, concerning the suitability of OPPANOL® for any application. This especially pertains to the intended use of OPPANOL® in any food/medical/pharmaceutical application. Moreover, BASF never supplies its OPPANOL® products for the manufacture of implants.