

Introducing Bormed™ PL8830-PH

The first controlled elastomers solution
for the healthcare industry



The global healthcare market depends on the reliable and secure supply of controlled raw materials which must fulfil especially demanding standards in regard to safety, biocompatibility, toxicity and more. Security of supply drives the risk management decision-making process along the entire pharmaceutical value chain.

Our range of Bormed™ polyethylene (PE) and polypropylene (PP) grades for rigid and flexible products in the healthcare industry enables our customers to meet the technical requirements of a wide variety of end uses, including those for medical devices as well as pharmaceutical and diagnostic packaging.

This dedicated range is now being expanded with the introduction of the **first controlled elastomers solution** for the global healthcare market, **Bormed™ PL8830-PH**. This controlled grade is also included in our **Bormed™ Concept** service package encompassing Service, Commitment, and Conformance.

Thanks to this portfolio enlargement, Borealis now has one of the **largest product offerings** for the global healthcare market. We are currently the **only raw material supplier** to offer a material that can **bridge the gap** between thermoplastics and elastomers.

Pushing the envelope on performance for healthcare applications

Bormed PL8830-PH is an ethylene-based, octene-1 plastomer produced using a metallocene catalyst in a solution polymerisation process. It has been developed to be used as a versatile blend partner with other polyolefins in film, extrusion and moulding applications.

Because it is a reactor polymer, it boasts the very highest and most consistent quality. This regulated plastomer grade offers:

- The outstanding flexibility of an amorphous polymer
- Narrower melting ranges
- Higher level of filler acceptance
- The cost-per-volume advantage of low-density polymers
- Excellent performance at very low temperatures.

The use of Bormed PL8830-PH yields advantages across the board, from manufacturer to end user:

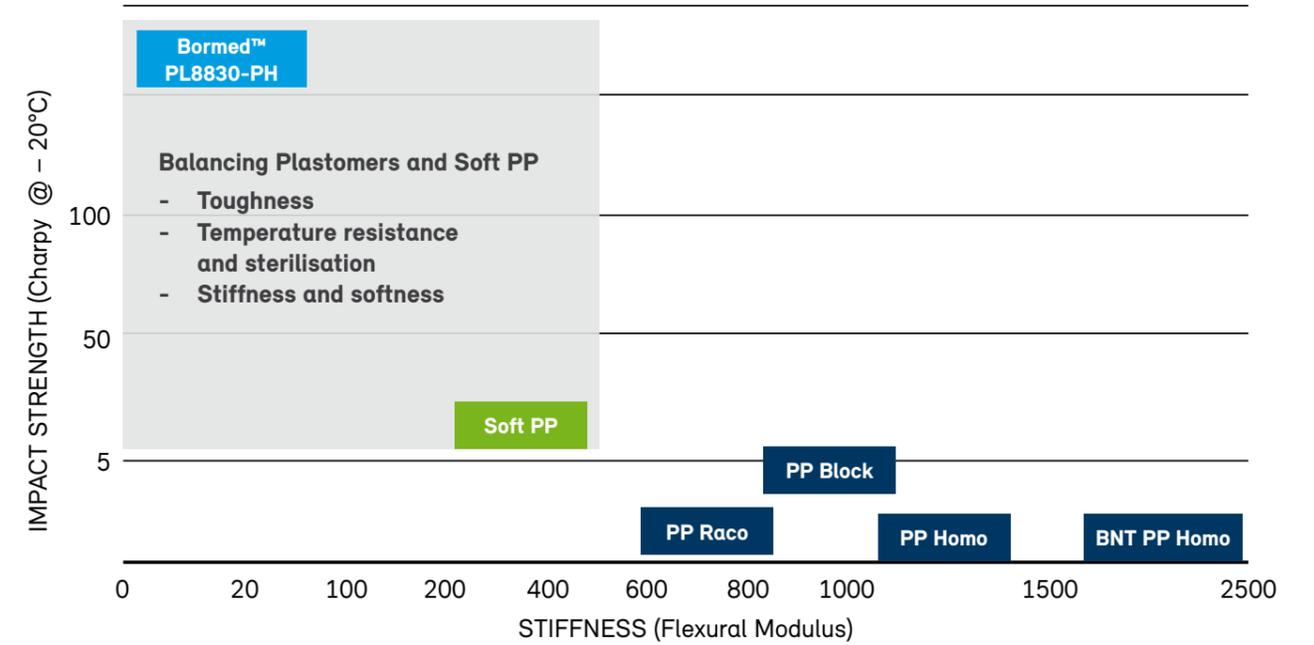
- **High-performance:** offers tailored performance attributes

to meet the most stringent application requirements when blended with the other controlled resins of the Bormed portfolio.

- **High pack integrity:** can be achieved even at low temperatures, helping prevent damage to receptacles such as pouches, and producing a tight seal which reduces risk of outside contamination.
- **Simplified processes:** because it contains very low levels of antioxidants but no other additives, less effort is required to evaluate potential interaction between the application or packaging material itself, and its contents.
- **Potential cost savings:** helps reduce manufacturing costs because it allows for the significant reduction of non-polyolefin impact modifiers used to achieve performance properties like impact strength.
- **Enhanced sustainability:** using Bormed PL8830-PH instead of non-polyolefins yields a mono-material solution which is more easily recyclable.



Bormed™ PL8830-PH with soft PPs



Bormed™ PL8830-PH Table of Characteristics

Physical Properties

Property	Typical Value*	Test Method
Density (23 °C)	883 kg/m ³	ISO 1183
Melt Flow Rate (190 °C/2, 16 kg)	1,1 g/10 min	ISO 1133

*Data should not be used for specification work

Because we care: the Bormed™ Concept

In the healthcare market, safety, efficiency, and reliability are paramount. Our Bormed Concept is based on the three core principles of service, commitment and conformance. It encompasses the entire process, from product conception to production, from procurement to distribution, and extends to customer support. We can be relied upon to maintain the consistency of the variables used to make healthcare polyolefins while staying current with regulatory compliance guidelines for European and US Pharmacopeia as well as ISO standards. We continue to develop our technical expertise while also cultivating ongoing dialogue with our partners and customers. In this way we are able to provide customised solutions for your healthcare challenges.



Bormed means reliable supply of controlled raw materials

Our family of Bormed grades tailored to healthcare applications comes with quality assurance under the Bormed Concept. For Bormed PL8830-PH, we can assure:

- Continuity of supply, thanks to a two-year, underwritten pre-notification prior to product change (in accordance with pre-arranged Technical Delivery Specification with customer).
- Superior product consistency, quality and purity thanks to special production and quality precautions.
- Long-term traceability, in part due to retention of Quality Control data and samples.
- Continuous product innovation for application improvements as well as advantages to converters, brand owners and end users thanks to implementation of new and proprietary technologies.

Bormed™ - Because we care | Date of issue: October 2018

Borealis is a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers. With its head office in Vienna, Austria, the company currently has around 6,600 employees and operates in over 120 countries. Borealis generated EUR 7.5 billion in sales revenue and a net profit of EUR 1,095 million in 2017. Mubadala, through its holding company, owns 64% of the company, with the remaining 36% belonging to Austria-based OMV, an integrated, international oil and gas company. Borealis provides services and products to customers around the world in collaboration with Borouge, a joint venture with the Abu Dhabi National Oil Company (ADNOC).

Borealis and Borouge aim to proactively benefit society by taking on real societal challenges and offering real solutions. Both companies are committed to the principles of Responsible Care®, an initiative to improve safety performance within the chemical industry, and work to solve the world's water and sanitation challenges through product innovation and their Water for the World programme.

For more information visit: www.borealisgroup.com • www.borouge.com • www.waterfortheworld.net

Disclaimer: The information contained herein is to our knowledge accurate and reliable as of the date of publication. Borealis and Borouge extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the consequences of its use or for any errors. It is the customer's responsibility to inspect and test our products in order to satisfy himself as to the suitability of the products for the customer's particular purpose. The customer is also responsible for the appropriate, safe and legal use, processing and handling of our products. Nothing herein shall constitute any warranty (express or implied, of merchantability, fitness for a particular purpose, compliance with performance indicators, conformity to samples or models, non-infringement or otherwise), nor is protection from any law or patent to be inferred. Insofar as products supplied by Borealis and Borouge are used in conjunction with third-party materials, it is the responsibility of the customer to obtain all necessary information relating to the third-party materials and ensure that Borealis and Borouge products, when used together with these materials, are suitable for the customer's particular purpose. No liability can be accepted in respect of the use of Borealis and Borouge products in conjunction with other materials. The information contained herein relates exclusively to our products when not used in conjunction with any third-party materials.

Responsible Care® is a registered trademark of the Borealis Group. Bormed™ is a trademark of the Borealis Group.

Borealis AG • IZD Tower

Wagramer Strasse 17-19 • A-1220 Vienna • Austria
Tel +43 1 22 400 000 • Fax +43 1 22 400 333

Borouge Pte Ltd • Sales and Marketing Head Office
1 George Street 18-01 • Singapore 049145
Tel +65 6275 4100 • Fax +65 6377 1233

