

Polyethylene

Bormed™ HE7541-PH

We confirm that this product fulfils the requirements on materials used for the manufacturing of articles or components of articles intended for medical use as described in:

Council of Europe	<p>Material complies with the following European Pharmacopoeia monographs: Monograph 3.1.3. Polyolefins Monograph 3.1.5. Polyethylene with additives for containers for parenteral preparations and for ophthalmic preparations Tests are made according to the current Pharmacopoeia edition at the time of the testing: 10th edition (2020), and supplement 10.5 (07/2021).</p> <p>Monograph 3.2.2. Plastic containers and closures for pharmaceutical use: This monograph relates specifically to the <u>container and closure system</u> and does not contain tests that are required for compliance assessment of the raw materials used for said container and closures. The composition of the product is in compliance with this monograph.</p>
Germany	<p>The product follows the VDI 2017 Guideline on “Medical Grade Plastic” that covers the requirements for change management, quality management, supply security and support for regulatory requirements.</p>
USA	<p>Material has passed the following United States Pharmacopoeia tests: Biological reactivity tests - in vitro <87>: Cytotoxicity (Elution test) Biological reactivity tests - in vivo <88>: Class VI - 70 °C Physicochemical tests for plastics according to <661>, so far applicable to polymer pellets (with no reference to the specific surface area requirements), including heavy metals, buffering capacity and non-volatile residue test with purified water, alcohol and hexane extracts. Plastic materials of construction <661.1>: Identification, physicochemical and extractable metals (as listed in the chapter) tests. Plastic additive tests are done according to Borealis’ internal methods. Tests are made according to the current Pharmacopoeia edition at the time of the testing (USP 36/41/2021).</p>
Additional testing	<p>Material has been tested according to the following ISO 10993 biological tests, in the extent applicable for polymer pellets: Cytotoxicity (ISO 10993-5) Acute systemic toxicity (ISO 10993-11) Skin irritation / intracutaneous reactivity (ISO 10993-10) Dermal sensitization (ISO 10993-10) Hemocompatibility (ISO 10993-4) Tests are made according to the current ISO 10993 edition at the time of the testing (2018).</p>
Elemental impurities	<p>During the manufacturing process of this product, we neither use nor intentionally incorporate any Class 1, 2A, 2B or 3 elements as listed in the ICH Q3D(R1) Guideline on Elemental Impurities (March 2019).</p>
DMF number	<p>Material has been assigned the FDA Drug Master File number(s): DMF 027654</p>
Additional information	<p>If a customer wishes to take advantage of the pre-notice period in case of deletion or modification of Bormed grades, such pre-notice period needs to be included in Technical Delivery Specifications.</p>

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Prepared by Borealis, Group Product Stewardship / Niina Kerttula

Disclaimer

The product(s) mentioned herein are not intended for use as medical implant material or implantable medical devices and we do not support their use for such applications.

To the best of our knowledge, the information contained herein is accurate and reliable as of the date of publication; however we do not assume any liability whatsoever for the accuracy and completeness of such information.

Borealis makes no warranties which extend beyond the description contained herein. Nothing herein shall constitute any warranty of merchantability or fitness for a particular purpose.

It is the customer's responsibility to inspect and test our products in order to satisfy itself as to the suitability of the products for the customer's particular purpose. The customer is responsible for the appropriate, safe and legal use, processing and handling of our products.

No liability can be accepted in respect of the use of Borealis' 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.