

## Product Data Sheet

## Polyethylene

## BorPure™ MB5569

High Density Polyethylene for Injection and Compression Moulding

## DESCRIPTION

**BorPure™MB5569** is a multimodal, high-density polyethylene intended for both injection and compression moulding with strong focus on superior environmental stress cracking resistance (ESCR) suitable for use in light-weight closures. This grade also exhibits excellent organoleptic properties and good flow properties equivalent to that of standard monomodal MFR2 HDPE resin. The grade contains slip agent for controlled torque level.

## APPLICATIONS

- Closures for carbonated soft drinks, tea, juices and sparkling beverages.
- Consumer and industrial articles with high ESCR demands

## SPECIAL FEATURES

- Superior environmental stress crack resistance
- Equivalent flowability to a monomodal MFR2 HDPE
- Lubricant for controlled opening/closing torque

## PHYSICAL PROPERTIES

| Typical properties*                | Conditions                 | Method       | Value | Unit              |
|------------------------------------|----------------------------|--------------|-------|-------------------|
| <b>Physical</b>                    |                            |              |       |                   |
| Density                            |                            | ISO 1183     | 956   | kg/m <sup>3</sup> |
| Melt Flow Rate (MFR <sub>2</sub> ) | (190°C / 2.16kg)           | ISO 1133     | 0.8   | g/10min           |
| <b>Mechanical</b>                  |                            |              |       |                   |
| Tensile Modulus                    | (1mm/min)                  | ISO 527-2    | 1000  | MPa               |
| Tensile Stress at Yield            | (50mm/min)                 | ISO 527-2    | 26.0  | MPa               |
| Tensile Strain at Yield            | (50mm/min)                 | ISO 527-2    | 9.0   | %                 |
| <b>Additional Properties</b>       |                            |              |       |                   |
| ESCR                               | (10% Igepal, F50)          | ASTM D1693-B | 750   | Hours             |
| FNCT                               | (6.0MPa, 50°C, 2% Arkopal) | ISO 16770    | 65    | Hours             |

\* Data should not be used for specification work.

## PROCESSING TECHNIQUES

This product is easy to process with standard injection moulding machines, as well as on compression moulding equipment

### a. Injection moulding

Following injection moulding parameters should be used as guidelines:

- Melt temperature: 190 - 250 °C
  - Mould temperature: 10 - 40 °C
  - Injection speed: as high as possible.
- Shrinkage 1 - 2 %, depending on wall thickness and moulding parameters

### b. Compression moulding

In compression moulding, the following parameters can be used:

- Extruder temperature profile: 160-195°C
  - Melt temperature: 180 - 200°C
  - Mould temperature: 10 - 40°C
- Shrinkage 1 – 2 %, depending on wall thickness and moulding parameters

## STORAGE

**BorPure™ MB5569** should be stored in dry conditions at temperatures below 50°C and protected from UV-light. Improper storage can initiate degradation, which results in odor generation and color changes and can have negative effects on the physical properties of this product.

More information on storage can be found in Safety Information Sheet (SIS) for this product.

## SAFETY

The product is not classified as a dangerous preparation.

Please see our Product Safety information sheet (SIS) for details on various aspects of safety; recovery and disposal of the product, for more information contact your Borouge representative.

## RECYCLING

The product is suitable for recycling using modern methods of shredding and cleaning. In-house production waste should be kept clean to facilitate direct recycling.

## RELATED DOCUMENTS

The following related documents are available on request, and represent various aspects on the usability, safety, recovery and disposal of the product.

Product safety information sheet (SIS)  
 Statement on chemicals, regulations and standards  
 Statement on compliance to food contact regulations

## DISCLAIMER

**The product(s) mentioned herein are not intended to be used for medical, pharmaceutical or healthcare applications 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.

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