Technical Data Sheet

# ERACLENE®
# MM 80 U BA

HDPE
High density polyethylene bio attributed

## SUSTAINABILITY

The product Eraclene MM 80 U BA 'Bio attributed' is a highly sustainable HDPE produced using bionafta from renewable raw materials together with traditional raw materials. In order to attribute the sustainable feedstock component to the final product Versalis applies the Mass Balance approach, a recognized methodology that allows to trace the flow of materials along the value chain and to assign the sustainability characteristic of the raw material to the final product on a documentary basis. Eraclene MM 80 U BA provides the same chemical composition and physical-mechanical performance of the traditional grade, in addition is accompanied by a sustainability declaration that certifies the share of bio attributed product. It is a high-density polyethylene homopolymer resin with antioxidants, suitable for injection moulding application. The production of Eraclene MM 80 U BA allows to contribute to the circular economy, since the bionafta used derives from renewable resources (e.g. vegetable oils). Eraclene MM 80 U BA will be bio attributed for 95%. The exact amount of "bio attributed" product will be reported in the sustainability certificate issued upon the delivery of the product.

## MAIN PROPERTIES

| Resin Properties | Value | Unit | Test method |
|---|---|---|---|
| Melt Flow Rate (190 °C/2.16 kg) | 5.5 | g/10min | ISO 1133 |
| Melt Flow Rate (190 °C/5 kg) | 14 | g/10min | ISO 1133 |
| Melt Flow Rate (190 °C/21.6 kg) | - | g/10min | ISO 1133 |
| Density | 0.956 | g/cm$^3$ | ISO 1183 |
| Melting Point | 132 | °C | Metodo interno |
| Brittleness temperature | <- 60 | °C | ASTM D 746 |
| Vicat softening point (1 kg) | 127 | °C | ISO 306/A |

| Mechanical Properties * | Value | Unit | Test method |
|---|---|---|---|
| Tensile stress at yield | 27 | MPa | ISO 527 |
| Tensile stress at break | 20 | MPa | ISO 527 |
| Tensile strain at yield | - | % | ISO 527 |
| Elongation at break | 550 | % | ISO 527 |
| Flexural modulus | 1350 | MPa | ISO 178 |
| Hardness Shore D | 69 | - | ISO 868 A |
| Falling weight | - | J | ISO 6603-2 |
| Izod impact strength, notched | 110 | J/m | ASTM D 256 |
| Environmental Stress Cracking Resistance (ESCR) | - | h | ASTM D 1693(B) |

(*) Values are referred to compression moulded specimens. Actual properties are typical and may vary depending upon operating conditions.



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**ERACLENE®** HDPE / High density polyethylene bio attributed **MM 80 U BA**

## MAIN APPLICATIONS

The narrow molecular weight distribution and the high density make Eraclene MM 80 U BA the ideal polymer for injection molding application. Thermal stability during the transformation phase is excellent. The manufacts produced with Eraclene MM 80 U BA have a high rigidity and a good impact resistance.

## PROCESSING NOTES

Eraclene MM 80 U BA is readily processable by conventional injection moulding equipment with excellent results.
Typical processing conditions (*)
Temperature profile of the barrel (°C) 220 - 275
Temperature of the mould (°C) 10 - 40
(*) Processing conditions are depending on several parameters: the shape of the part to be manufactured, the localisation of the injection point, the injection moulding machine and the cooling of the mould.

## STORAGE AND HANDLING

Eraclene MM 80 U BA is supplied in pellet form. This material may readily be conveyed and bulk fed through equipment designed for conventional pelletized polyethylene resin, provided the equipment is designed to prevent accumulation of the fines and dust particles that are contained in all polyethylene resins. These fines and dust particles can, under certain conditions, pose an explosion hazard. We recommend that the conveying system used be equipped with filters of adequate size, operated and maintained in such a manner to ensure that no leaks develop and earthed adequately. We further recommend that good housekeeping should be practiced throughout your facility. The product should be stored in dry conditions at temperatures below 50°C and protected from sunlight. Improper storage can initiate degradation which results in odor generation, color changes and can have negative effects on the physical properties of the product. Before using this product, it is recommended to read and understand the relevant Safety Data Sheet.

## AVAILABILITY

Contact the Versalis sales office nearest to you regarding availability and your specific application requirements.

## FOOD CONTACT STATUS

Eraclene MM 80 U BA complies with the rules and regulations of the European Union, as well as other countries, regarding the use of plastic materials in food contact applications. Certificates of compliance are available upon request.

## TECHNICAL MANAGEMENT POLYETHYLENE

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**IMPORTANT:** please consult the relevant safety data sheet for more detailed information. The information and data presented herein are to the best of our knowledge true and accurate but no warranty or guarantee, expressed or implied, is made nor is any liability accepted with respect to the use of such information and data. Versalis is available to provide the guaranteed values for each product on demand

**DISCLAIMER:** it is the sole responsibility of the end-user to determine the safety, the regulatory compliance as well as the technical suitability of the product for the intended application. The product is not intended for use in medical devices and pharmaceutical applications; Versalis declines all responsibility and cannot be held liable in case of use in the above-mentioned applications.

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