



versalis

# Technical Data Sheet

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## PHARMALENE<sup>®</sup>

## MP 20 PH

LDPE

Low density polyethylene

Pharmalene MP 20 PH is a homopolymer low density polyethylene (LDPE) without additives obtained by high pressure autoclave process. It is manufactured according to good manufacturing practices (GMP).

### Main Application

The main use is in the pharmaceutical sector. Pharmalene MP 20 PH is suitable for injection moulding, medium thickness articles, and masterbatch applications. Thanks to its excellent organoleptic properties, the product can be used for coating and flexible packaging.

### Main Properties

Resin Properties	Value	Unit	Test Method
Melt Flow Rate (190 °C/2.16 kg)	8	g/10min	ISO 1133
Melt Flow Rate (190 °C/5 kg)	-	g/10min	ISO 1133
Melt Flow Rate (190 °C/21.6 kg)	-	g/10min	ISO 1133
Density	0.921	g/cm <sup>3</sup>	ISO 1183
Melting point	108	°C	Metodo interno
Brittleness temperature	<- 75	°C	ASTM D 746
Vicat softening point (1 kg)	85	°C	ISO 306/A

Mechanical Properties *	Value	Unit	Test Method
Tensile stress at yield	9	MPa	ISO 527
Tensile stress at break	11	MPa	ISO 527
Elongation at break	500	%	ISO 527
Flexural modulus	-	MPa	ISO 178
Hardness Shore D	46	-	ISO 868 A
Falling Weight	-	J/mm	ISO 6603-2
Izod impact strength, notched	-	J/m	ISO 180/A
ESCR **	-	h	ASTM 1693/B

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

## Processing notes

Typical injection moulding processing conditions:  
Temperature profile of the barrel (°C) 160 – 200.  
Pharmalene MP 20 PH is easily processed in extrusion coating lines.  
The suggested temperature is 260÷330°C.  
Pharmalene MP 20 PH can be extruded at thickness lower than 10 µm.

## Storage and Handling

Pharmalene MP 20 PH is supplied in pellet form. This material may readily be conveyed and bulk fed through equipment designed for conventional pelletised 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 practised 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 odour generation, colour changes and can have negative effects on the physical properties of the product.

## Availability

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

## Food Contact Status

Pharmalene MP 20 PH complies with the European Union (Reg. 10/2011) and the USA (FDA) rules, relating the use of plastic materials intended for contact with foodstuffs.

The composition of our product is in conformity with sections of the European Pharmacopoeia (eighth ed.) And those of the U.S. Pharmacopoeia (USP 34) that indicate the requirements for the 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.