

DuPont™ Biomax® TPS 2301

Biomax® TPS resins Product Data Sheet

Description

Product Description	<p>DuPont(TM) Biomax(R) TPS 2301 is a renewably sourced offering formulated for injection molding. It is especially appropriate for molded parts that will be used in mostly dry conditions prior to disposal. It offers disposal alternatives to landfills as it can biodegrade in natural environmental conditions. It can be especially valuable where avoiding collection of the articles after outdoor use is desired.</p> <p>Biomax® TPS 2301 resin is certified to EN 13432 and ASTM 6400 standards (by Din Certco and Vincotte in Europe, and BPI in U.S.) for industrial composting.</p>
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Restrictions

Material Status	<ul style="list-style-type: none"> • Developmental: Active
Availability	<ul style="list-style-type: none"> • Asia, Europe, North America, South America
Other Restrictions	Excludes Australia and New Zealand

Typical Characteristics

Uses	<ul style="list-style-type: none"> • Agricultural Applications Containers Packaging
Features	<p>*** NOTE on Melt Flow Rate: --- in general Biomax TPS resins are viscous resins when dry for processing. The relative MFR can range from fractional such as 0.4 when very dry, heading up into the range of 3 to 20 MFR as moisture levels and TPS grade types change. --- for more information, please consult a DuPont technical representative.</p> <p>PHYSICAL Properties: Max Tensile Stress: ----- 7.5 MPa Elongation at Break ----- 210 % Young's Modulus ----- 120 MPa Izod Impact Strength ----- 77.9 J/m Heat Deflection Temp ----- 33.4 C Durometer Hardness ----- 43 (Shore D)</p>
Characteristics / Benefits	<p>Inherently grease- and oil-resistant amorphous resin, sealable, printable and laser etchable, Strong flavor and odor barrier Renewably-sourced material solution, biodegradable when in contact with water</p>
Applications	Well-Suited for one-time use applications.

Typical Properties

Physical	Nominal Values	Test Method(s)	
Density ()	1.414 g/cm ³	ASTM D792	ISO 1183
Melt Flow Rate (190°C/2.16kg)	*** see note above *** g/10 min	ASTM D1238	ISO 1133

Thermal	Nominal Values	Test Method(s)	
Melting Point (Biomax(R) TPS is an amorphous polymer. Glass Transition Temperature (Tg) by DMA is reported here for reference.)	-10°C (14°F)		
Vicat Softening Point ()	45°C (113°F)	ASTM D1525	ISO 306

Processing Information

General

Maximum Processing Temperature	200°C (392°F)
General Processing Information	<p>DRYING: The resin should be dried at 70C. The length of time depends on the initial moisture content of the resin. Ideal injection molding processing moisture level is 2% to 3%. If you need additional information on drying technology, and / or appropriate methods and equipment for measuring moisture content of the polymer, please contact your DuPont Technical representative,</p> <p>INJECTION MOLDING: Best processing has been determined with a 3 zone screw used for polyolefins with a compression ratio of 2.3 to 1 or lower, ideally lower than 2 to 1.</p>

Injection Molding Processing

Nominal Values

Injection Processing Information	The mold temperature is recommended to be set initially at approximately 40C.
Feed Zone	130°C (266°F)
Second Zone	160°C (320°F)
Third Zone	160°C (320°F)
Fourth Zone	165°C (329°F)
Fifth Zone	165°C (329°F)
Adapter Zone	175°C (347°F)
Die Zone	175°C (347°F)

Regulatory Information

For information on regulatory compliance, consult your local DuPont representative.

Safety & Handling

Pellets become slippery when wet. Carefully wipe up pellets that have spilled onto wet floors to prevent slipping hazards. Avoid processing temperatures in excess of 200 deg. C (392 deg.F)

Biomax(R) TPS esins as supplied by DuPont are not considered hazardous materials. As with any hot material, care should be taken to protect the hands and other exposed parts of the body when handling molten polymer. At recommended processing temperatures, small amounts of fumes may evolve from the resins. When resins are overheated, more extensive decomposition may occur. Adequate ventilation should be provided to remove fumes from the work area. Disposal of scrap presents no special problems and can be by landfill or incineration in a properly operated incinerator. Disposal should comply with local, state, and federal regulations. Resin pellets can be a slipping hazard. Loose pellets should be swept up promptly to prevent falls. For more detailed information on the safe handling and disposal of DuPont resins, a Material Safety Data Sheet can be obtained from the DuPont Packaging and Industrial Polymers website or by contacting your sales representative.

Read and Understand the Material Safety Data Sheet (MSDS) before using this product

Regional Centres

DuPont operates in more than 70 countries. For help finding a local representative, please contact one of the

following regional customer contact centers:

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