Tritan™ MX731

Copolyester

Eastman Chemical Company

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Technical Data

Product Description

Eastman Tritan™ Copolyester MX731 is an amorphous product with excellent appearance and clarity. Eastman Tritan™ Copolyester MX731 is a high flow medical grade of Eastman Tritan™ that has viscosity reductions of 40-50% relative to Eastman Tritan™ Copolyester MX711. Eastman Tritan™ Copolyester MX731 contains a mold release derived from vegetable based sources. Eastman Tritan™ Copolyester MX731 has many outstanding features that include excellent toughness, hydrolytic stability, heat resistance, chemical resistance, and melt flowability. Eastman Tritan™ Copolyester MX731 has been formulated for medical devices. Eastman Tritan™ Copolyester MX731 has been tested for FDA/ISO 10993 and USP Class VI Biological Evaluation testing after Gamma and ETO sterilization.

Key Attributes

- Excellent clarity
- Excellent hydrolytic stability
- Fast cycle times
- Fast drying times
- Good chemical resistance
- Good color stability upon ETO sterilization
- Good color stability upon gamma sterilization
- Good heat resistance
- Good melt flowability
- Good toughness
- Improved processability over traditional copolyesters

Applications

- Blood contact and dialysis
- Blood tubes
- Fluid administration
- Medical devices
- Medical equipment
- Medical labware

General

Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet (English)		
UL Yellow Card [2]	• E118289-101674517		
Search for UL Yellow Card	• Eastman Chemical Company • Tritan™		
Availability	• Africa & Middle East • Asia Pacific	• Europe • Latin America	• North America
Additive	• Mold Release		
Features	• Amorphous • Chemical Resistant • Ethylene Oxide Sterilizable • Fast Molding Cycle • Good Color Stability	• Good Mold Release • Good Processability • Good Toughness • High Clarity • High Flow	• High Heat Resistance • Hydrolytically Stable • Pleasing Surface Appearance • Radiation Sterilizable
Uses	• Fluid Handling • Labware	• Medical Devices • Medical/Healthcare Applications	• Tubing
Agency Ratings	• FDA	• ISO 10993	• USP Class VI

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.18	g/cm³	ASTM D792
Molding Shrinkage - Flow (23°C)	0.50 to 0.70	%	ASTM D955

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Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
23°C	1580	MPa	ASTM D638
23°C	1600	MPa	ISO 527-1
Tensile Strength			
Yield, 23°C	43.0	MPa	ASTM D638
Yield, 23°C	44.0	MPa	ISO 527-2
Break, 23°C	52.0	MPa	ASTM D638
Break, 23°C	49.0	MPa	ISO 527-2
Tensile Elongation			
Yield, 23°C	7.0	%	ASTM D638 ISO 527-2
Break, 23°C	210	%	ASTM D638
Break, 23°C	150	%	ISO 527-2
Flexural Modulus			
23°C	1580	MPa	ASTM D790
23°C	1500	MPa	ISO 178
Flexural Stress			
23°C	60.0	MPa	ISO 178
Yield, 23°C	64.0	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	860	J/m	ASTM D256
-40°C	11	kJ/m²	ISO 180
23°C	83	kJ/m²	ISO 180
Unnotched Izod Impact (23°C)	No Break		ASTM D4812

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale, 23°C)	111		ASTM D785

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed	94.0	°C	
1.8 MPa, Unannealed	81.0	°C	

Optical	Nominal Value	Unit	Test Method
Light Transmittance (Total)	91.0	%	ASTM D1003
Haze	< 1.00	%	ASTM D1003

Injection	Nominal Value	Unit
Drying Temperature	88	°C
Drying Time	4.0 to 6.0	hr
Processing (Melt) Temp	260 to 282	°C
Mold Temperature	38 to 66	°C

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

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