

Technical Data	
Product Description	
Eastar™ MN211, Natural	Meets ISO 10993 and/or USP Class VI biocompatibility requirement. Eastar™ Copolyester MN211, Natural contains a mold release for improved ejection. It is a brilliantly clear polymer with good impact strength, chemical resistance, dimensional stability, and low shrinkage rates. The slower rate of crystallization of this material makes it excellent for use in hot runner systems with valve or thermal gates. This product has been GREENGUARD INDOOR AIR QUALITY CERTIFIED The GREENGUARD INDOOR AIR QUALITY CERTIFIED Mark is a registered certification mark used under license through the GREENGUARD Environmental Institute (GEI). GEI is an industry-independent, non-profit organization that oversees the GREENGUARD Certification Program. The GREENGUARD Certification Program is an industry independent, third-party testing program for low-emitting products and materials for indoor environments. For more information about GEI and to obtain printable certificates for Eastman™ Copolyesters, visit www.greenguard.org. Choose Eastman Chemical Company under the Manufacturer category and click search to display a list of our products.
SKYGREEN® PN100	SKYGREEN is a BPA free high-performance PETG with exceptional transparency, chemical resistance, and processability. Available in 4 unique grades, SKYGREEN's outstanding features make it an ideal choice for a variety of applications PN SERIES SKYGREEN PN has high flowability, ideally suited for detailed and varied designs, smaller products, or injection with thin gates. Key Attributes • Transparency • High flowability • Processability Applications • Medical • Childcare • Homeappliance • Sheet • Cosmetic • Construction • Food • Drink
SKYGREEN® K2012	SKYGREEN is a BPA free high-performance PETG with exceptional transparency, chemical resistance, and processability. Available in 4 unique grades, SKYGREEN's outstanding features make it an ideal choice for a variety of applications K SERIES SKYGREEN K has long been known for its reliability as a transparent plastic. Its outstanding transparency and easy processability make it the top choice for many applications. Key Attributes

	• Transparency • Processability • Good overall toughness • BPA free composition Applications • Sheet • Cosmetic • Construction • Food • Drink • Deco Film
SKYGREEN® S2008	SKYGREEN is a BPA free high-performance PETG with exceptional transparency, chemical resistance, and processability. Available in 4 unique grades, SKYGREEN's outstanding features make it an ideal choice for a variety of applications. S SERIES SKYGREEN S caters to customers looking for varied grades of transparency, with a deeper and more luxurious appearance. With all the quality and reliability of SKYGREEN, the beauty of SKYGREEN S adds distinction to many applications. Key Attributes • Transparency • Processability • Safety Applications • Medical • Childcare • Home appliance • Sheet • Cosmetic • Construction • Food • Drink
Tritan™ TX2001	Eastman Tritan™ TX2001 is an amorphous copolyester with excellent appearance and clarity. Tritan™ TX2001 contains a mold release derived from vegetable based sources. Its most outstanding features are excellent toughness, hydrolytic stability, and heat and chemical resistance. This new-generation copolyester can also be molded into various applications without incorporating high levels of residual stress. Combined with Tritan™ copolyester's outstanding chemical resistance and hydrolytic stability, these features give molded products enhanced durability in the dishwasher environment, which can expose products to high heat, humidity, and aggressive cleaning agents. Tritan™ TX2001 copolyester may be used in repeated use food contact articles under United States Food and Drug Administration (FDA) regulations. Tritan™ TX2001 copolyester is certified to NSF/ANSI Standard 51 for Food Equipment Materials and is also certified to NSF/ANSI Standard 61 - Drinking Water System Components-Health Effects.



General	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001
Manufacturer / Supplier	• Eastman Chemical Company	• SK Chemicals	• SK Chemicals	• SK Chemicals	• Eastman Chemical Company
Generic Symbol	• 共聚多酯	• PETG	• PETG	• PETG	• 共聚多酯
Material Status	• 已商用：当前有效	• 已商用：当前有效	• 已商用：当前有效	• 已商用：当前有效	• 已商用：当前有效
资料 ¹	• Technical Datasheet (English)	• Processing - Extrusion (English) • Processing - Extrusion Blow Molding (English) • Processing - Injection Molding (English) • Technical Datasheet (English)	• Processing - Extrusion (English) • Processing - Extrusion Blow Molding (English) • Processing - Injection Molding (English) • Technical Datasheet (English)	• Processing - Extrusion (English) • Processing - Extrusion Blow Molding (English) • Processing - Injection Molding (English) • Technical Datasheet (English)	• Processing - Injection Molding Guide (English) • Technical Datasheet (English)
UL 黄卡 ²	--	--	• E215991-229326	--	• E118289-100101424
搜索 UL 黄卡	• Eastman Chemical Company • Eastar™	• SK Chemicals	• SK Chemicals	• SK Chemicals	• Eastman Chemical Company • Tritan™
Availability	• 北美洲 • 非洲和中东 • 拉丁美洲 • 欧洲 • 亚太地区	• 北美洲 • 欧洲 • 亚太地区	• 北美洲 • 欧洲 • 亚太地区	• 北美洲 • 欧洲 • 亚太地区	• 北美洲 • 非洲和中东 • 拉丁美洲 • 欧洲 • 亚太地区
Additive	• 脱模	--	--	--	• 脱模
Features	• 尺寸稳定性良好 • 电子束消毒 • 辐射消毒 • 良好的颜色稳定性 • 良好抗撞击性 • 耐化学品性能，良好 • 清晰度，高 • 收缩性低 • 脱模性能良好	• 良好的加工性能 • 流动性高 • 耐化学品性能，良好 • 清晰度，高 • 无 BPA	• 良好的加工性能 • 耐化学品性能，良好 • 清晰度，高 • 韧性良好 • 无 BPA	• 耐化学品性能，良好 • 清晰度，高 • 无 BPA • 优良外观 • 优异的加工性能	• 高抗撞击性 • 共聚物 • 快的成型周期 • 良好的加工性能 • 耐化学品性能，良好 • 耐热性，高 • 耐用性 • 清晰度，高 • 韧性良好 • 食品接触的合规性 • 水解稳定 • 脱模性能良好 • 外观良好 • 无定形的
Uses	• 医疗/护理用品	• 电器用具 • 非特定食品应用 • 化妆品 • 建筑应用领域 • 片材 • 医疗/护理用品	• 薄膜 • 非特定食品应用 • 化妆品 • 建筑应用领域 • 片材	• 电器用具 • 非特定食品应用 • 化妆品 • 建筑应用领域 • 片材 • 医疗/护理用品	• 大型家用电器和小型家用电器 • 电器用具 • 家用货品 • 消费品应用领域



General	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001		
Agency Ratings	--	--	--	--	--		• FDA 食品接触, 未评级 • NSF 51 • NSF 61
Appearance	• 自然色	• 清晰/透明	• 清晰/透明	• 清晰/透明	• 清晰/透明	--	
Forms	• 粒子	• 粒子	--	--	--	--	
Processing Method	• 注射成型	• 挤出 • 注射成型	--	--	--		• 注射成型

Physical	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Density / Specific Gravity	1.27	1.27	1.27	1.27	1.17	g/cm³	ASTM D792
Molding Shrinkage - 流动							ASTM D955
--	--	0.20 到 0.50	0.20 到 0.50	0.30 到 0.60	0.50 到 0.70	%	
3.20 mm	0.20 到 0.50	--	--	--	--	%	
Water Absorption (24 hr, 23°C)	0.13	--	--	--	--	%	ASTM D570

Mechanical	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Tensile Modulus							
23°C	--	--	--	--	1590	MPa	ASTM D638
23°C	--	--	--	--	1620	MPa	ISO 527-2
Tensile Strength							
屈服	--	46.1	44.6	44.6	--	MPa	ASTM D638
屈服, 23°C	50.0	--	--	--	44.0	MPa	ASTM D638
屈服	--	49.0	49.0	49.0	--	MPa	ISO 527-2
屈服, 23°C	--	--	--	--	45.0	MPa	ISO 527-2
断裂	--	46.1	29.4	40.2	--	MPa	ASTM D638
断裂, 23°C	28.0	--	--	--	53.0	MPa	ASTM D638
断裂	--	23.0	30.0	30.0	--	MPa	ISO 527-2
断裂, 23°C	--	--	--	--	49.0	MPa	ISO 527-2



Mechanical	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Tensile Elongation							
屈服	--	4.5	4.5	5.0	--	%	ASTM D638
屈服, 23°C	4.3	--	--	--	7.0	%	ASTM D638
屈服	--	4.1	4.1	4.1	--	%	ISO 527-2
屈服, 23°C	--	--	--	--	7.0	%	ISO 527-2
断裂	--	120	250	250	--	%	ASTM D638
断裂, 23°C	110	--	--	--	140	%	ASTM D638
断裂	--	40	240	240	--	%	ISO 527-2
断裂, 23°C	--	--	--	--	130	%	ISO 527-2
Flexural Modulus							
--	--	1890	2160	1810	--	MPa	ASTM D790
23°C	2100	--	--	--	1590	MPa	ASTM D790
--	--	1890	1800	1920	--	MPa	ISO 178
23°C	--	--	--	--	1530	MPa	ISO 178
Flexural Strength							
--	--	70.6	74.0	69.1	--	MPa	ASTM D790
23°C	70.0	--	--	--	--	MPa	ASTM D790
--	--	67.0	64.0	67.0	--	MPa	ISO 178
屈服, 23°C	--	--	--	--	66.0	MPa	ASTM D790
Impact	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Notched Izod Impact							
-40°C	37	--	--	--	--	J/m	ASTM D256
23°C	100	110	110	100	650	J/m	ASTM D256
-40°C	--	--	--	--	14	kJ/m²	ISO 180
23°C	--	7.0	7.3	8.8	66	kJ/m²	ISO 180
Unnotched Izod Impact							
-40°C	无断裂	--	--	--	--		ASTM D4218
23°C	--	--	--	--	无断裂		ASTM D4812
23°C	无断裂	--	--	--	--		ASTM D4218



Hardness	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Rockwell Hardness							ASTM D785
R 级, 23°C	106	--	--	--	115		
R 级	--	105	108	110	--		
Thermal	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Deflection Temperature Under Load							
0.45 MPa, 未退火	70.0	70.0	70.0	70.0	109	°C	ASTM D648
0.45 MPa, 未退火	--	72.0	72.0	73.0	--	°C	ISO 75-2/B
1.8 MPa, 未退火	63.0	62.0	62.0	62.0	92.0	°C	ASTM D648
1.8 MPa, 未退火	--	62.0	62.0	64.0	--	°C	ISO 75-2/A
Vicat Softening Temperature	85.0	--	--	--	--	°C	ASTM D1525
Specific Heat							ASTM D2766
60°C	1300	--	--	--	--	J/kg/°C	
240°C	2010	--	--	--	--	J/kg/°C	
Thermal Conductivity (23°C)	0.19	--	--	--	--	W/m/K	No Standard
Optical	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	测试方法
Transmittance							ASTM D1003
常规	88.0	--	--	--	--	%	
总计	91.0	--	--	--	92.0	%	
--	--	90.0	90.0	90.0	--	%	
Haze	0.300	< 1.00	< 1.00	< 1.00	< 1.00	%	ASTM D1003
Injection	Eastar™ MN211, Natural	SKYGREEN® PN100	SKYGREEN® K2012	SKYGREEN® S2008	Tritan™ TX2001	单位制	
Drying Temperature	71	--	--	--	88	°C	
Drying Time	4.0 到 6.0	--	--	--	4.0 到 6.0	hr	
Processing (Melt) Temp	249 到 271	--	--	--	260 到 282	°C	
Mold Temperature	16 到 38	--	--	--	38 到 66	°C	

备注

- ¹ 通过这些链接您能够访问供应商资料。我们尽量保证及时更新资料；不过您可以从供应商处了解最新资料。
- ² UL 黄卡含有 UL 验证的易燃性和电气特性。UL Prospector 持续努力在 Prospector 中将黄卡链接至单个塑料材料，然而此列表可能未包括所有相应链接。重要的是，我们对 Prospector 中找到的这些黄卡和塑料材料之间的关联进行验证。如需完整的黄卡列表，请访问 UL 黄卡搜索。
- ³ 一般属性：这些不能被视为规格。

购买地点

供应商	
Eastar™ MN211, Natural	Eastman Chemical Company Kingsport, TN USA 电话: 800-327-8626 Web: http://www.eastman.com/
SKYGREEN® PN100	SK Chemicals 电话: +82-2-2008-2292 (South East Asia); +1-949-336-8088 (USA); +49-6196-902-0612 (Germany) Web: http://www.skchemicals.com/
SKYGREEN® K2012	SK Chemicals 电话: +82-2-2008-2292 (South East Asia); +1-949-336-8088 (USA); +49-6196-902-0612 (Germany) Web: http://www.skchemicals.com/
SKYGREEN® S2008	SK Chemicals 电话: +82-2-2008-2292 (South East Asia); +1-949-336-8088 (USA); +49-6196-902-0612 (Germany) Web: http://www.skchemicals.com/
Tritan™ TX2001	Eastman Chemical Company Kingsport, TN USA 电话: 800-327-8626 Web: http://www.eastman.com/



分销商

Eastar™ MN211, Natural

ALBIS Plastic

ALBIS Plastic is a global distribution and compounding company. Contact ALBIS Plastic for availability of individual products per country.

电话: +49-40-78105-0

Web: <http://www.albis.com/>

供货地区: Algeria, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Latvia, Lithuania, Luxembourg, Morocco, Netherlands, Norway, Russian Federation, Slovakia, Slovenia, Sweden, Tunisia, United Kingdom

Amco Polymers

电话: 800-262-6685

Web: <http://www.amcopolymers.com/>

供货地区: North America

Avient Distribution

Avient Distribution is a global distribution company. Contact Avient Distribution for availability of individual products by country.

电话: +1-888-502-0951 (USA); +86-21-6028-4805 (China)

Web: <https://www.avientdistribution.com/>

供货地区: Global

CCC Plastics

电话: 800-465-6917

Web: <https://www.ccc-group.com/>

供货地区: Canada, United States

Nexeo Plastics

电话: 833-446-3936

Web: <https://www.nexeoplastics.com/>

供货地区: North America

SKYGREEN® PN100

Biesterfeld

Biesterfeld is a Pan European distribution company. Contact Biesterfeld for availability of individual products by country.

电话: +49-40-32008-0

Web: <http://www.biesterfeld-plastic.com/>

供货地区: Algeria, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Faroe Islands, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Libyan Arab Jamahiriya, Luxembourg, Mauritania, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, United Kingdom

ResMart

电话: 844-738-8806

Web: <http://www.resmart.com>

供货地区: North America

SKYGREEN® K2012

ResMart

电话: 844-738-8806

Web: <http://www.resmart.com>

供货地区: North America



SKYGREEN® S2008

Biesterfeld

Biesterfeld is a Pan European distribution company. Contact Biesterfeld for availability of individual products by country.

电话: +49-40-32008-0

Web: <http://www.biesterfeld-plastic.com/>

供货地区: Algeria, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Egypt, Faroe Islands, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Libyan Arab Jamahiriya, Luxembourg, Mauritania, Morocco, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, United Kingdom

Chase Plastic Services, Inc.

Chase Plastics Services is a North American distributor with representatives throughout the region. Please find your rep here: <http://www.chaseplastics.com/contact/locations>

电话: 800-232-4273

Web: <http://www.chaseplastics.com/>

供货地区: North America

ResMart

电话: 844-738-8806

Web: <http://www.resmart.com>

供货地区: North America

Tritan™ TX2001

ALBIS Plastic

ALBIS Plastic is a global distribution and compounding company. Contact ALBIS Plastic for availability of individual products per country.

电话: +49-40-78105-0

Web: <http://www.albis.com/>

供货地区: Algeria, Austria, Belgium, Czech Republic, Denmark, Estonia, Finland, Germany, Ireland, Latvia, Lithuania, Luxembourg, Morocco, Netherlands, Norway, Russian Federation, Slovakia, Slovenia, Sweden, Tunisia, United Kingdom

Amco Polymers

电话: 800-262-6685

Web: <http://www.amcopolymers.com/>

供货地区: North America

Avient Distribution

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Web: <https://www.avientdistribution.com/>

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供货地区: North America

