

## Typical Properties for ECOZEN® YM 051

### ECOZEN YM series : Medical & Child care

#### Product Description

ECOZEN YM 051 is eco-friendly bio copolyester which is created using natural materials based on the extract from plant or vegetable materials therefore it does not include environmental hormone bisphenol A (BPA) is a controversial never-ending human hazards. This improves flow rate and mold release of products in the plastics manufacturing process. It is useful to keep foods fresh because its low oxygen permeability and is not easy to be faded or contaminated with various detergents such as fabric softeners, dishwashing liquid or various chemicals such as cosmetics, alcohol, fragrances and so on.

ECOZEN YM 051 has various food contact related use of certification such as FDA (Food Contact Notification (FCN) No. 1075), NSF (the United States), EFSA (EU), JHOSPA (Japan), NHFPC (China) and KFDA (South Korea) and it is obtained in SVHC, RoHS and TOY EN71 certification (EU) and received certification from various harmful substances and environmental regulation substances.

ECOZEN YM 051 has the certification of bioplastics such as BETA certification and it is obtained the GOLD Level for Cradle to Cradle (C2C) certification (the United States) and certified by the external environment-friendly products. SK Chemicals Company has obtained the GOLD Level as the world's first and only chemical resin supplier.

#### Key Attributes

- Excellent Heat Resistance
- Excellent Chemical & Stain Resistance
- Excellent Impact Strength
- Less Residual Stress
- BPA / Phthalate free

#### Applications / Uses

- Medical packaging
- Baby bottle
- Baby food container
- Toys for baby

#### Headquarter / R&D center

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The information in this data sheet is, to the best of our knowledge, true and accurate. The representations about the product are based upon test results achieved under laboratory practices supervised and controlled by SK chemicals corporation.

Property	Test Method	Unit	Typical Values
Specific Gravity	ASTM D792	-	1.25
Mold Shrinkage (Parallel to Flow)	ASTM D955	%	0.2~0.5
Rockwell Hardness	ASTM D785	R-scale	115
<b>Mechanical</b>			
Tensile Strength @ Yield 50mm/min (2 inch/min)	ASTM D638	MPa (kgf/cm <sup>2</sup> )	47 (480)
Tensile Strength @ Break 50mm/min (2 inch/min)	ASTM D638	MPa (kgf/cm <sup>2</sup> )	48 (490)
Elongation @ Yield 50mm/min (2 inch/min)	ASTM D638	%	5.8
Elongation @ Break 50mm/min (2 inch/min)	ASTM D638	%	150
Flexural Strength 1.27mm/min (0.05 inch/min)	ASTM D790	MPa (kgf/cm <sup>2</sup> )	71 (720)
Flexural Modulus 1.27mm/min (0.05 inch/min)	ASTM D790	MPa (kgf/cm <sup>2</sup> )	1,860 (19,000)
Izod Impact Strength, Notched @ 23 °C(73 °F)	ASTM D256	J/m	No Break
<b>Thermal</b>			
Heat Distortion Temperature @ 0.455 MPa(66 psi)	ASTM D648	°C (°F)	80 (176)
<b>Optical</b>			
Haze	ASTM D1003	%	< 1.0
Transmittance	ASTM D1003	%	89

The data listed here is preliminary data sheet of product. Therefore this sheet should not be used to establish specification limits or used alone as a basis for design. This information is not intended as a warranty of any kind. Customers must make their own representative test and assume all risks of use, whether used alone or in combination with other products. SK Chemicals assumes no obligation or liability of any advice furnished by it or results obtained with respect to these products. All warranties of merchantability for a particular purpose or use are excluded and disclaimed.

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