

## Typical Properties for ECOZEN® YH 050

### ECOZEN YH series : Hair & Make-up (Cosmetics)

#### Product Description

ECOZEN YH 050 takes the advantages of transparent plastics such as PC, PMMA, PETG (Polyethylene Terephthalate Glycol) and complements the shortcomings of those plastics. Also, it has transparency as PC (Polycarbonate) but no harmful substances like BPA (Bisphenol A) and has excellent impact strength than PMMA. It has the most excellent chemical resistance to substances of cosmetics in a transparent and glass feeling plastics container. Also it has the lowest oxygen permeability of transparent plastics so that it can increase the shelf life of cosmetics. It is easy to apply to Printing, Hot stamping, and Metal deposition (metal evaporation coating) etc. and it shows the solid grip of the vessel.

ECOZEN YH 050 is obtained in SVHC and RoHS certification (EU) and received certification from various harmful substances and environmental regulation substances. 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

- Enable Variety Color Patterns
- Excellent Chemical & Stain Resistance
- Excellent Impact Strength
- High Transparency and Gloss
- Easy to Processing

#### Applications / Uses

- Cosmetic bottle
- Cream jar, Over cap etc.
- Perfume bottle and cap
- Skin care bottle
- Hair & make-up tools case

#### ※ Approvals

SVHC : Substance of Very High Concern

RoHS : Restriction of the use of certain Hazardous Substance

#### Headquarter / R&D center

686 Sampyung-Dong, Bundang-Gu, Seongnam-Si,  
Gyeonggi-Do, 463-400 Korea  
TEL : + 82-2-2008-2008 / FAX : + 82-2-2008-2009

#### Ulsan Plant

600 Hwangseong-Dong, Nam-Gu,  
Ulsan 680-160 KOREA  
TEL : + 82-52-256-0121 / FAX : + 82-52-256-0652

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.

#### Headquarter / R&D center

686 Sampyung-Dong, Bundang-Gu, Seongnam-Si,  
Gyeonggi-Do, 463-400 Korea  
TEL : + 82-2-2008-2008 / FAX : + 82-2-2008-2009

#### Ulsan Plant

600 Hwangseong-Dong, Nam-Gu,  
Ulsan 680-160 KOREA  
TEL : + 82-52-256-0121 / FAX : + 82-52-256-0652

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.