PHOTOMER® 6019
Aliphatic Urethane Acrylate

Product Data Sheet

General Information

PHOTOMER® 6019 is a proprietary, non-yellowing aliphatic urethane oligomer developed for UV/EB curable systems. This medium viscosity acrylate resin exhibits good adhesion to flexible plastics, metal and glass. It is recommended as a primary oligomer for secondary coatings in optical fibers, fiber-optic sensors and light pipes. Excellent weatherability, scratch, scuff and mar resistance are characteristics of this oligomer.

Specification

Appearance	**Visual**	**Clear medium viscosity liquid**
Viscosity @ 60 °C	**Brookfield, ISO 2555**	**2,500 - 4,000 mPa·s**
Colour (Gardner)	**ISO 4630**	**≤ 1**
Isocyanate content (NCO)		**≤ 0.1 %**

Additional Data

Specific Gravity @ 25 °C	1.080 g/cm^3
Weight/Gallon @ 25 °C	9.01 lbs
Molecular Weight	1,500 g/mol

Application

PHOTOMER® 6019 is recommended for clear as well as pigmented formulations for flexible plastic substrates, paper and metals. It is an excellent base resin for screen printing inks where it imparts consistent application viscosity, better pattern resolution and uniform coating thickness during application and cure. The neat oligomer on UV cure forms tough, but very flexible films with good weatherability and solvent resistance. UV cured neat film studies of PHOTOMER® 6019 on aluminum substrates illustrates the excellent properties that can be achieved with this material.

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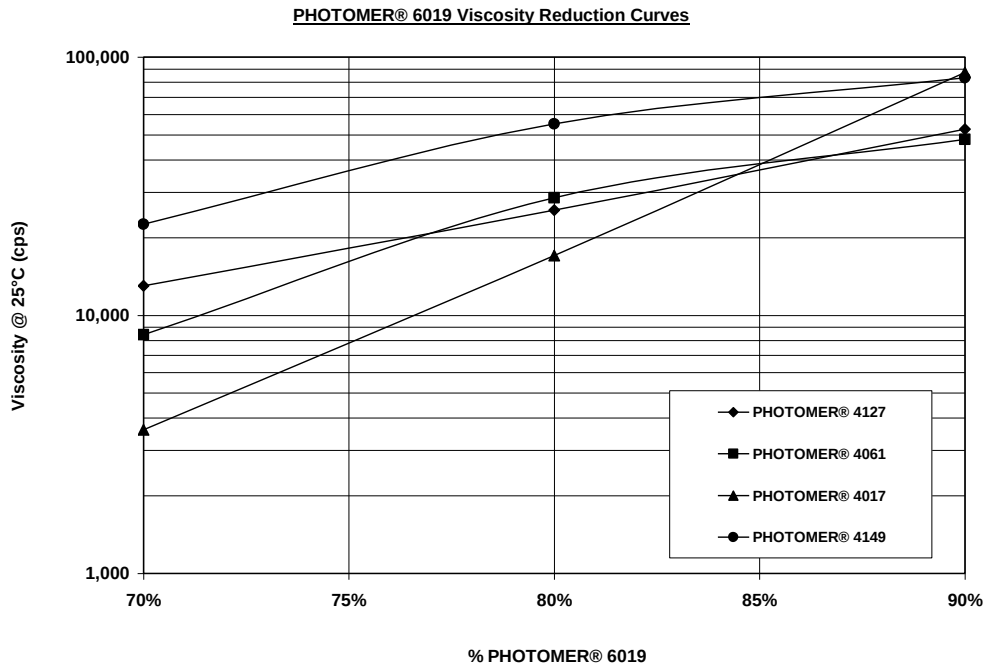
PHOTOMER® 6019	
Film Studies	**Aluminum**
Scuff Resistance	Good
Gloss 60°	100 %
Solvent Resistance (MEK Double Rubs)	400+
Adhesion (#600 Cellotape)	Good
Pencil Hardness	5H
Conical Mandrel	< 0.25"
Weatherability (2000 hrs of exposure to 313 nm UV light)	Passes with 89% gloss retention delta b = 1
Tensile Strength	8200 psi
Elongation	8%
Cure Conditions:	RDS Rod #3; 0.27 mils wet film thickness; 4% Omnirad® BDK; 100 ft/min; one 300 watt/inch UV lamp (H bulb).

Viscosity Reduction Profile

Viscosity reduction studies with various monomers as depicted in the following graph demonstrate the relative ease in diluting PHOTOMER® 6019 oligomer. Second generation PHOTOMER® monomers and conventional monomers representing a broad spectrum of multifunctional reactive diluents were found to be very compatible over a wide range.



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Regulatory Status

TSCA (USA), NDSL (Canada), AICS (Australia), ECL (Korea), ENCS/MITI (Japan), IECSC (China), EU (Europe)

Miscellaneous

PACKAGING, STORAGE AND HANDLING

PHOTOMER® 6019 is shipped in 55 gallon (200 liter) lined openhead steel drums.
PHOTOMER® 6019 may solidify and crystallize if subjected to cold or freezing conditions. Allow to warm to 50 °C until a uniform product is obtained, mix on a drum roller if necessary. Storage must be in a cool, shaded, well ventilated and dry area away from sources of direct heat and sunlight.

Additional handling information is contained within the material safety data sheet which is available upon request.

FREIGHT CLASSIFICATION

PHOTOMER® 6019 is classified as: Synthetic Resins NOIBN (Resin or Resin Compounds).

Subject to appropriate storage under the usual storage and temperature conditions, our products are durable for at least 12 months.

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