

## Preliminary Product Information Sheet

(Note: These are typical properties to be used as a guide only, not a specification. Data below is not guaranteed. Different batches, conditions and applications yield differing results.)

**MATERIAL ID:**
**EPO-TEK® 310M-1 (formerly 78-105-5)**
**Date:** 04/2009

**Per:** JSZ

**Rev:** III

**Material Description:**

A USP Class VI approved replacement for EPO-TEK® 310. It is a two component, optically clear epoxy adhesive designed for optical, semiconductor and medical applications.

**Number of Components:**

Two

**Mix Ratio:**

10:5.3

**Cure Schedule (minimum)**

65°C/2 Hours - 23°C/1 Day

**Specific Gravity:**

--- Part A: 1.14 Part B: 1.05

**Pot Life:**

2 Hours

**Shelf Life:**

One year at room temperature

**NOTE:** Container(s) should be kept closed when not in use. Filled systems should be stirred thoroughly before mixing and prior to use. - TOTAL MASS SHOULD NOT EXCEED 25 GRAMS -

### MATERIAL CHARACTERISTICS: *Cure Condition: varies as required*

**PHYSICAL PROPERTIES:**

<b>Color (before cure):</b>	Part A: Clear/Colorless	Part B: Clear/Light Yellow
<b>Consistency:</b>	Pourable liquid	
<b>Viscosity (23°C):</b>		<b>Die Shear @ 23°C:</b> 7.3 Kg
@ 100 rpm	315 cPs	<b>Degradation Temp:</b> 300 °C
<b>Thixotropic Index:</b>	N/A	<b>Weight Loss:</b>
<b>Glass Transition Temp:</b>	28 °C (Dynamic Cure	@ 200°C: 6.63 %
20—200°C /ISO 25 Min; Ramp -10—200°C @ 20°C/Min)		@ 250°C: 7.92 %
<b>Coefficient of Thermal Expansion (CTE):</b>		@ 300°C: %
Below Tg:	60 x 10 <sup>-6</sup> in/in°C	<b>Operating Temp:</b>
Above Tg:	229 x 10 <sup>-6</sup> in/in°C	Continuous: - 55°C to + 150°C
<b>Shore A Hardness:</b>	62	Intermittent: - 55°C to + 250°C
<b>Lap Shear @ 23°C:</b>		<b>Storage Modulus @ 23°C:</b> 4,699 psi
		<b>Particle Size:</b> N/A

**ELECTRICAL AND THERMAL PROPERTIES:**

<b>Thermal Conductivity:</b>	N/A	<b>Dielectric Constant (1KHz):</b>
<b>Volume Resistivity @ 23°C:</b>	Ohm-cm	<b>Dissipation Factor (1KHz):</b>

**OPTICAL PROPERTIES @ 23°C:**

<b>Spectral Transmission:</b>	>98 % @ 360-1660 nm	<b>Refractive Index (uncured):</b> 1.5129 @ 589 nm
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The data above is INITIAL only - it may be changed at anytime, for any reason without notice to anyone. It is provided only as a guide for evaluation/consideration.

\*These material characteristics are typical properties that are based on a limited number of samples/batches. All properties are based on the cure indicated above. Some properties may vary as manufactured quantities are scaled up to commercialized production levels.

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