

Date: November 2019 **Rev:** X
No. of Components: Single
Mix Ratio by Weight: N/A
Specific Gravity: 1.20
Pot Life: N/A
Shelf Life- Bulk: One year at room temperature

Recommended Cure	
Iron-Doped Mercury Flood Lamp <i>100 mW/cm² @ 240-365 nm</i>	> 30 sec.
Alternative Cures*	
Iron-Doped Mercury Spot Lamp	> 5 min.
365nm LED Flood Lamp	> 2.5 min.
Pulsed Mercury Lamp	> 60 sec.
UV Cure is complete after 24 hours from UV Exposure	
* Contact Technical Services for application-specific variations	

NOTES:

- Container(s) should be kept closed when not in use.
- Filled systems should be stirred thoroughly before mixing and prior to use.
- Performance properties (rheology, conductivity, others) of the Products may vary from those stated on the data sheet when bi-pak/syringe packaging or post-processing of any kind is performed. Epoxy's warranties shall not apply to any products that have been reprocessed or repackaged from Epoxy's delivered status/container into any other containers of any kind, including but not limited to syringes, bi-paks, cartridges, pouches, tubes, capsules, films or other packages.
- Thermal post-cure beneficial - contact techserv@epotek.com for recommendations.

Product Description: EPO-TEK[®] OG116-31 is a single component, UV curable epoxy adhesive and encapsulant, designed for PCB and circuit assembly applications found in semiconductor, computer, medical, and scientific/OEM industries.

Typical Properties: *Cure condition: Varies as required. *denotes test on lot acceptance basis Data below is not guaranteed. To be used as a guide only, not as a specification. Different batches, conditions & applications yield differing results.*

PHYSICAL PROPERTIES:			
* Color (before cure):	Cloudy White		
* Consistency:	Viscous Liquid		
* Viscosity (23°C) @ 10 rpm:	20,000-30,000 cPs		
Thixotropic Index:	1.3		
* Glass Transition Temp:	≥115 °C (Dynamic Cure:20-200°C/ISO 25 Min; Ramp -10-200°C @ 20°C/Min)		
Coefficient of Thermal Expansion (CTE):			
	Below Tg:	41 x 10 ⁻⁶ in/in°C	
	Above Tg:	170 x 10 ⁻⁶ in/in°C	
Shore D Hardness:	83		
Die Shear:			
UV Cure	≥10 Kg	3,556	psi
UV Cure + 23°C/24 Hours	27.8 Kg	9,885.7	psi
UV Cure + 80°C/1 Hour	27.1 Kg	9,636.8	psi
Degradation Temp:	409 °C		
Weight Loss:			
	@ 200°C	0.30 %	
	@ 250°C	0.68 %	
	@ 300°C	1.18 %	
Suggested Operating Temperature:	< 300 °C (Intermittent)		
Storage Modulus:	263,581 psi		
* Particle Size:	≤ 20 microns		

OPTICAL PROPERTIES @ 23°C:	
Spectral Transmission:	≥ 96% @ 660-1,640 nm ≥ 92% @ 500 nm
Refractive Index (uncured):	1.5665 @ 589 nm
Refractive Index (cured):	1.5842 @ 589 nm

Epoxyes and Adhesives for Demanding Applications™

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EPO-TEK[®] OG116-31 Advantages & Suggested Application Notes:

- Viscosity/rheology adapted to high volume syringe needle dispensing with no tailing.
- Versatility in cure. Product responds to a broad range of UV light, and secondary thermal post-curing.
- Suggested applications:
 - ◇ Semiconductor: COB glob top covering IC's and wire bonds; glob top dam; encapsulating and sealing; adhesion to FR4, Kapton, silicon.
 - ◇ Fiber Optic: making fiber optic pigtailed; active alignment of optics; adhesion to many types of glass, metals, ceramics and plastics.
 - ◇ Opto-electronic:
 - Perimeter/main seal for LCD's, compatible with VAN liquid crystal for LCoS devices.
 - Adhesive technology described in Technical Paper # 55 - <http://www.epotek.com/technical-papers.asp>
- High Tg and low outgassing are indicative of its high temperature performance.

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