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# OptiCLEAR™ Liquid Encapsulant Fill SF503A

## TECHNICAL DATA SHEET 668

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### DESCRIPTION

Polysciences, Inc. OptiCLEAR™ liquid encapsulant is a new generation of modulus fill material specifically designed to offer efficient light transmission and low cure stress. Polysciences' OptiCLEAR™ encapsulant is a novel 100% solids, one component, unfilled, liquid encapsulant designed for encapsulation of semiconductor devices requiring high toughness and strong adhesion to various substrates such as metal, ceramic and organic. SF503A can be cured by heat or rapidly by UV light.

### CUSTOMER BENEFITS

OptiCLEAR™ Liquid Encapsulant offers the following distinct advantages over anhydride-based epoxy systems:

- Highly efficient transmission of incident light and very little change after exposure to high heat
- Efficient material utilization resulting from extended pot life at room temperature
- Contamination free processing due to very low cure volatiles
- High Tg

### UNCURED (WET) PROPERTIES

**Color** Clear, Colorless  
**Specific Gravity** 1.2  
**Viscosity @ 25°C (RVDV-II+, 14/6R 10rpm)**  
1500 cps

### PROCESS PARAMETERS

**Cure Cycle**  
UVA (320-400nm): 7.5 J.cm<sup>2</sup>/3mm section  
**Alternate Cure Cycle**  
2 hours @ 130°C

### CURED PROPERTIES

**Glass Transition Temperature (Tg)**  
>100°C  
**Coefficient of Thermal Expansion (CTE)**  
Below Tg 70 ppm/°C  
Above Tg 200 ppm/°C  
**Extractable Ionic Content (Na, K, Cl)**  
< 20 ppm  
**Refractive Index**  
1.54

### STORAGE AND HANDLING

**Storage** 12 months @ <5°C  
**Safety** Normal safety precautions for epoxy resins should be observed. Refer to MSDS for details.

*All values are considered typical based on tests believed to be accurate. Polysciences, Inc. may change the data as appropriate.*

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