**LoSTRESS™ Liquid Encapsulant SF54GB**

**DESCRIPTION**
Polysciences, Inc. LoSTRESS™ Liquid Encapsulant is a new generation of low modulus, green flame retardant fill material specifically designed to offer low cure stress and low warpage. LoSTRESS™ Liquid Encapsulant is a novel epoxy based 100% solids, one component, liquid encapsulant designed for encapsulation of semiconductor devices requiring improved aging resistance, high toughness, green flame retardancy and strong adhesion to various substrates such as metal, ceramic and organic.

**CUSTOMER BENEFITS**
LoSTRESS™ Liquid Encapsulant offers the following distinct advantages:
- Very little warpage on HT and LTCC substrates for easy downstream process
- Minimal cure stress on sensitive devices such as SAW filters
- High adhesion to die, substrates and most other interfacing materials
- Improved aging properties at elevated temperatures

**UNCURED (WET) PROPERTIES**
- **Color:** Black
- **Specific Gravity:** 1.3
- **Viscosity @ 25°C RVDV-II+, Spindle 27:** 30,000 cps @ 5 rpm
- **Thixotropic Index (5/0.5 rpm):** 1.1
- **Pot Life @ 25°C:** >16 hours
- **Storage Life:** >12 months @ -40°C

**PROCESS PARAMETERS**
- **Thawing:** For best dispensing, thaw for 1 hour at RT
- **Cure Schedule:**
  - 90 minutes @ 100°C plus
  - +60 minutes @ 150°C plus
  - +60 minutes @ 160°C

**CURED PROPERTIES**
- **Glass Transition Temp. (Tg) by DMA:** <20°C
- **Coefficient of Thermal Expansion (CTE):**
  - Below Tg: 130 ppm/°C
  - Above Tg: 250 ppm/°C
- **Modulus (Tensile):** 1 MPa @ 25°C
- **Moisture Absorption after 192 hrs 30°C/60% RH:** 0.4%
- **Decomposition Temp. (<2% weight loss):** TBD
- **Extractable Ionic Content:** Na <5ppm, K <5ppm, Cl <10ppm
- **Dielectric Constant:** TBD

**STORAGE AND HANDLING**
- **Shipping:** Recommended temperature is ~-40°C
- **Storage:** Store at ~-40°C for up to 12 months
- **Safety:** Normal safety precautions for epoxy resins should be observed. Refer to MSDS for details.

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

---

**TECHNICAL DATA SHEET 651**

---

**North America (United States)**
1 (800) 523-2575 / (215) 343-6484
1 (800) 343-3291 / (215) 343-0214 fax

**Europe (Germany)**
(49) 6221-765767 / (49) 6221-764620 fax

**Asia-Pacific (Taiwan)**
(886) 2 8712 0600 / (886) 2 8712 2677 fax

Online anytime at: polysciences.com

---

© 2012 Polysciences, Inc. Control No. TV-1-MK-2a Rev. #1 03.06.2012

Should any of our materials fail to perform to our specifications, we will be pleased to provide replacements or return the purchase price. We solicit your inquiries concerning all needs for life sciences work. The information given in this bulletin is to the best of our knowledge accurate, but no warranty is expressed or implied. It is the user’s responsibility to determine the suitability for their own use of the products described herein, and since conditions of use are beyond our control, we disclaim all liability with respect to the use of any material supplied by us. Nothing contained herein shall be construed as a recommendation to use any product or to practice any process in violation of any law or any government regulation.

---

Should any of our materials fail to perform to our specifications, we will be pleased to provide replacements or return the purchase price. We solicit your inquiries concerning all needs for life sciences work. The information given in this bulletin is to the best of our knowledge accurate, but no warranty is expressed or implied. It is the user’s responsibility to determine the suitability for their own use of the products described herein, and since conditions of use are beyond our control, we disclaim all liability with respect to the use of any material supplied by us. Nothing contained herein shall be construed as a recommendation to use any product or to practice any process in violation of any law or any government regulation.