Product Datasheet

SP&S Specialty Polymers and Services

EpoPro® 8765-2OC

RoHS 76/769/EEC

1 COMPONENT, HIGH PURITY, LOW SHRINKAGE EPOXY ENCAPSULANT

EpoPro® 8765-2OC is 1 apart, high performance epoxy encapsulant. It features high ionic purity, low shrinkage, a low coefficient of thermal expansion, and excellent environmental and thermal resistance. In addition, the cured polymer meets UL 94VO flame retardance standards at 6mm and provides good thermal conductivity.

The EpoPro® 8765-2OC system can be used where a high performance, low shrinkage or low CTE system is required. It has been designed not to transfer stress to embedded components and can be used to encapsulate IGBTS and other power semi-conductors. It typically does not damage embedded wire bonds and lead-wires. It can be used to coat and seal over a silicone buffer coats or in some cases can even be used for directly encapsulating bare dies. It can also be used to bond dies to various substrates.

SUGGESTED APPLICATIONS:

- Encapsulating IGBT and other Power Semi-conductors
- Encapsulating stress sensitive components
- Encapsulating applications where low CTE and low shrinkage are required

HANDLING PROPERTIES	VALUE	TEST METHOD
EpoPro 8765-2OC		
Visual Appearance	Black thick liquid	
Density	1.73 g/cm³	ASTM E-201
Flash Point	>100°C	ASTM D-92
Mixed Properties		
Mix Ratio (part by weight)	Once component	
Pot Life at 25ºC	> 3 months in the sealed container	
Viscosity 25ºC	At 2rpm: 440,000 cps / At 20 rpm: 150,000 cps	
Shelf-life	3 months at room temperature (~ 25ºC)	
	6 months stored at 4ºC – 10ºC or 12 months at ≤ -5ºC	
Pot life (10 grams):	25ºC: > 8 hours / 120ºC: 11 minutes	
Cure Schedules:	2 hours at 150ºC*	

*Note: many other cure schedules are possible. Please contact us for assistance if you would like to consider an alternate cure schedule.

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PHYSICAL & ELECTRICAL PROPERTIES (Tested at 25ºC unless otherwise noted)		
		TEST METHOD
Appearance	Black solid	Visual
Hardness, Shore D At 25ºC	84D	ASTM D-2240
Tensile Strength	6,000 psi	ASTM D-638
Tensile Elongation	0.5%	ASTM D-638
Modulus oof Elasticity	>1.2 million psi	ASTM D-638
Glass transition Temp. (Tg)	115ºC	
Coefficient of Thermal Exp. (CTE)	20 ppm/ºC	
Moisture absorption (2 hour in boiling water - % weight gain)	0.09%	ASTM D-570
Thermal Conductivity	0.72 W/mK	ASTM D-2214
Thermal Rating	-40ºC to 180ºC	EIC 216
Flammability	V-O (self-extinguishing) at 6mm	UL 94
Dielectric Strength	480 V/mil or 17.7 KV/mm	ASTM D-149
Dielectric Constant @ 60 Hz	3.8	ASTM D-150
Dissipitation Factor @ 60 Hz	0.003	ASTM D-150
Volume Resistivity	6 x 10^{15} ohm-cm	ASTM D-257
Surface Resistivity	1.35 x 10^{15} ohm	ASTM D-
Extractable Ionic Impurities:		MIL STD 883C Method 5011
Sodium	<10 ppm	
Chorine	<10 ppm	
Potassium	<5 ppm	

NOTE : Values are based on laboratory or average production results – not for specification purposes.

PROCESSING AND APPLICATION INSTRUCTIONS :

If the material has been supplied in a jar or other container other than a syringe, re-mix the material by gentle stirring or shaking prior to use to eliminate any settling or separation. If the product has been supplied in a syringe that has been stored at room temperature, check for settling or separation. If none is visually apparent the material is ready to use. If separation is observed place the syringe on a roller or package in an overpack container and place on a shaker to re-homogenize. Refrigerated or frozen syringes typically will not have to be re-mixed as the cold reduces or eliminates separation. For those syringes simply thaw to room temperature prior to use. You can heat the product to 40C to reduce viscosity and improve flow. Alternately heat the part or surface that the product will be applied on to 60ºC to 80ºC. Applying to a warm surface will improve adhesion, wetting, and penetration into porous surfaces.

PACKAGING AVIALABLE:

This product is available can be supplied in pint or quart jars or gallon cans. It can also be supplied in EFD (air or piston operated) syringes or HSW (manual/ thumb plunger operated)

syringes ins sizes from 1cc up to 55C or in cartridge sizes including 2.5oz, 6oz, and 12 oz. Please contact us about other package sizes that might be of interest.

STORAGE GUIDELINES:

Store the EpoPro 8765-1OC in a clean, cool, and dry environment in its tightly closed original containers. . Protect from exposure to extended moisture or high humidity. Tightly re-seal containers after use. If the recommended storage conditions are observed the products will have a minimum shelf-life of 3 months at up to 25C, 6 months refrigerated at 4C – 10C or 12 months frozen at ≤ -5ºC.

HANDLING PRECAUTIONS:

Mandatory and recommended industrial hygiene procedures should be followed whenever these products are being handled and processed. For additional information please consult the corresponding material safety data sheets.

PERSONAL HYGIENE:

EpoPro 8765-2OC

WARNING! May cause eye & skin irritation. Prolonged or repeated skin contact or inhalation of vapors may cause allergic skin or respiratory reactions. Harmful if inhaled or swallowed. Avoid contact with eyes, skin, or clothing. Wear eye protection and impervious gloves when handling. Wash thoroughly after handling. Avoid breathing vapor or mist. Keep containers closed when not in use. Use only with adequate ventilation. Do not take internally.

FIRST AID

In case of contact:

Skin – Immediately wash skin thoroughly with mild soap and water. Remove contaminated clothing and wash before reuse. Destroy contaminated shoes and other articles made of leather.

Eyes – Immediately flush eyes with plenty of water for 15 minutes and get prompt medical attention.

Inhalation - Remove person to fresh air. Administer oxygen or artificial respiration if necessary. Call a physician.

Ingestion - Do not induce vomiting. Dilute with plenty of water and contact physician immediately. Never give anything by mouth to an unconscious person.

DISCLAIMER:

IMPORTANT: The following supercedes Buyer's documents. **SELLER / MANUFACTURER MAKES NO REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, INCLUDING OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE**. No statements herein are to be construed as inducements to infringe any relevant patent. Under no circumstances shall Seller / Manufacturer be liable for incidental, consequential, or indirect damages for alleged negligence, breach of warranty, strict liability, tort, or contract arising in connection with the product(s). Buyer's sole remedy and Seller's sole liability for any claims shall be Buyer's purchase price. Data and results presented are based on controlled or laboratory work and must be confirmed by Buyer by testing for its intended conditions of use. The product(s) has not been tested for, and is therefore not recommended for, uses for which prolonged contact with mucous membranes, abraded skin, or blood is intended; or for uses for which implantation within the human body is intended.

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