

Micromax™ 5491N

Electronic Inks & Pastes

PRODUCT DESCRIPTION

Polymer Encapsulant Composition

Micromax™ 5491N polymer composition is intended for encapsulation on metal plate chip resistors, especially for high power and high operating temperature applications.

Product benefits

- High thermal durability
- Thermoset process (220°C, 30min)
- Natural color prior to and after curing
- Applicable on metal plate chip resistors as well as on thick film chip resistors.
- Halogen free*
- Cadmium, Lead, Nickel and Phthalate free*

*Halogen free as used here in means that the product is 'Halogen free' as defined in industry standard IEC 61249-2-21. Trace amount however may be present.

*Cadmium, Lead, Nickel and Phthalate 'free' as used herein means that cadmium, lead, nickel, and phthalate are not intentional ingredients in and are not intentionally added to the referenced product. Trace amounts however may be present.

READ ENTIRE TECHNICAL DATA SHEET BEFORE USING THIS PRODUCT

PRODUCT INFORMATION

General Properties	Value Unit
Application	Encapsulant
Color	Natural
Solvent or thinner	Micromax™ 9245(T)

TECHNICAL DATA

Rheological Properties	Value Unit
Viscosity ¹	45 to 75 Pa.s

Application Technique	Value	Unit
Mask mesh	250 to 325	
Mask emulsion	10 to 20	µm
Drying time	10	min
Drying temperature	110 to 150	°C
Recommended film thickness ²	25 to 35	µm
Leveling time	5	min

Storage and Stability	Value	Unit
Shelf life ³	3	months

¹Brookfield HAT, #14 spindle & UC, 10 rpm, 25°C

²cured thickness

³in unopened containers, from date of shipment, stable environment at refrigerated temperature between 0°C - 5°C.

PROCESSING GUIDELINES

Substrates

Substrates of different compositions and from various manufactures may result in variations in performance properties.

Printing

Cured thickness 30µm, +/-5µm. This is best achieved by using a 325 mesh stainless steel screen with a 10µm emulsion thickness and squeegee of 70 durometer.

The composition should be thoroughly mixed before use. This is best achieved by slow, gentle hand stirring with a clean burr-free spatula (flexible plastic) for 1-2 minutes. Care must be taken to avoid air entrapment. Printing should be performed in a clean and well ventilated area.

Note : Optimum printing characteristics are generally achieved in the room temperature range of 20-23°C. It is therefore important that the material, in its container is at this temperature prior to commencement of printing.

Thinning

The composition is optimized for screen printing. Thinner is normally not required. Use the Micromax™ recommended thinner for slight adjustments to viscosity or replace evaporation losses. The use of too much thinner or the use of a non-recommended thinner may affect the rheological behavior of the material and its printing characteristics.

Clean-up solvent

Micromax™ 9245(T)

Drying

Allow prints to level for 5 minutes at room temperature, then dry for 10 minutes at 110~150°C.

Curing

220°C for 30 minutes. Conditions need to be optimized for type of dryer.

Properties

Non-Volatile (150°C) : 83 - 88%

Information in this datasheet shows anticipated typical physical properties for Micromax™ 5491N based on specific controlled experiments in our labs and are not intended to represent the product specifications, details of which are available upon request.

Storage and shelf life

Containers should be stored, tightly sealed, in a clean, stable environment. It is recommended to keep the product refrigerated during transportation and stored at frozen temperature (<-10°C) after receipt by customers. Storage at room temperature is not recommended. Shelf life of material in unopened containers is three months from date of shipment. Gradual polymerization and associated viscosity increase, and mechanical separation can be expected over a period of a few months. When refrigerating conditions are used for storage, materials should be allowed to equilibrate to room temperature before opening to prevent pick up of moisture from condensation. After the containers are opened, use and storage conditions and the possible effects of contamination make shelf limits unpredictable.

Transportation: Should extraordinary events result in extended transportation periods, Micromax™ recommends customers confirm products remain suitable for the intended application.

SAFETY & WARNING

It is recommended that the company/operator read and review the Safety Data Sheets for the appropriate health and safety warnings before use.

Safety Data Sheets are available.

WASTE TREATMENT

Prior to using any recommendations or suggestions for waste treatment, the user is required to know the appropriate local/state/federal regulations for on-site or off-site treatment which may require permits. If there is any conflict regarding our recommendations, local/state/federal regulations take precedence.

CONTACT INFORMATION

www.macdermidalpha.com

North America	Europe	Asia
470 Research Drive Wilmington, DE, USA 855.622.7813	Bristol & Bath Science Park Dirac Crescent, Emersons Green, Bristol, BS16 7FR, United Kingdom 44.117.4769148	No. 45 Hsing-Point Road Taoyuan City, 330457 Taiwan 886.3.3773588

Also read carefully warning and safety information on the Safety Data Sheet. This data sheet contains technical information required for safe and economical operation of this product. READ IT THOROUGHLY PRIOR TO PRODUCT USE. Emergency safety directory assistance: US 1 202 464 2554, Europe + 44 1235 239 670, Asia + 65 3158 1074, Brazil 0800 707 7022 and 0800 172 020, Mexico 01800 002 1400 and (55) 5559 1588

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