

# Micromax™ BQ242

## Electronic Inks and Pastes

### Carbon Conductive Composition

Micromax™ BQ242 is a polymer thick film (PTF) carbon ink designed for carbon working electrodes in amperometric biosensors. It is suitable for biosensor manufacture by screen-printing on polyester film substrates.

### Product benefits

- High electrochemical activity suitable for uses with a variety of electron-transfer mediators.
- High conductivity
- Excellent adhesion to polyester film
- Superior carbon electrode wettability
- Halogen-free polymeric binder
- Good ink rheology for screen printing

### Product information

Solvent or thinner	Micromax™ 8240
Density	1.23 g/cm <sup>3</sup>
Solid content	40.9 - 42.9 <sup>[1]</sup> %
[1]: 150°C	

### Rheological properties

Viscosity	30 - 70 <sup>[2]</sup> Pa.s
[2]: Brookfield HBT, #14 spindle, 10 rpm, 25°C	

### Application technique

Mask mesh	180 - 280
Drying time	5 - 15 <sup>[3]</sup> min
Drying temperature	130 <sup>[3]</sup> °C
Theoretical coverage	250 - 280 <sup>[4]</sup> cm <sup>2</sup> /g
Recommended film thickness, dried	12.7 <sup>[5]</sup> - 20.3 <sup>[6]</sup> µm
[3]: box oven	
[4]: at 12.7µm	
[5]: 280 mesh screen	
[6]: 180 mesh screen	

### Typical mechanical properties

Adhesion, cross hatch	5B class
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### Electrical properties

Surface resistivity 18000 - 25000<sup>[7]</sup> mOhm per square

[7]: at 12.7µm thickness

### Storage and stability

Shelf life 6<sup>[8]</sup> months

[8]: in unopened containers, from date of shipment, at temperature <25°C (>0°C)

### Additional information

How to use

### Processing

- **Printing**

- Micromax™ BQ242 should be mixed thoroughly with a plastic or stainless steel spatula before use. Typical printing thickness: 0.8mil on 180 mesh screen, 0.5mil on 280 mesh screen.

- **Clean-up solvent**

- Ethylene glycol diacetate or other glycol methyl ether acetate.

- **Drying**

- Allow drying times of 2-5 minutes for well-ventilated ovens or conveyor dryers at 130°C. For box oven drying, allow 5-15 minutes at 130°C.

### Properties

- Information in this datasheet shows anticipated typical physical properties for Micromax™ BQ242 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

Micromax™ BQ Series compositions should be stored in a clean, stable environment at room temperature (~25°C) with their lids tightly sealed. Storage in high temperature (>30°C) or in freezers (<0°C) is NOT recommended as this could cause irreversible changes in the material. The shelf life of compositions in factory-sealed (unopened) containers stored under room temperature (~25°C) conditions is 6 months from the date of shipment. Some settling of solids may occur over time, so composition should be stirred thoroughly before use.

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### Safety and handling

For safety and handling information pertaining to this product, read Safety Data Sheet (SDS).

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