

ALIPHATIC URETHANE METHACRYLATE RESIN

INTRODUCTION

EBECRYL® 249 is an aliphatic urethane methacrylate. Films of EBECRYL® 249 cured by electron beam (EB) or ultraviolet light (UV) exhibit good exterior durability, good adhesion and a high order of scuff and abrasion.

PERFORMANCE DATA

EBECRYL® 249 is characterized by:

- Light colour
- High viscosity

UV/EB cured products based on EBECRYL® 249 are characterized by the following performance properties:

- Excellent non-yellowing
- High scuff and abrasion resistance
- Good exterior durability

The actual properties of UV/EB cured products also depend on the selection of the other formulation components, such as reactive diluent(s), additives and photo initiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing Formulated UV/EB curable products containing EBECRYL® 249 may be applied by lithographic, screen, gravure, direct or reverse roll, and curtain coating methods.

EBECRYL® 249 is recommended for use in:

- Clear coatings for paper
- Clear coatings on flexible and semi-rigid plastics
- Silk screen inks
- Solder resists as a flexibilizer
- Wood top coats

VISCOSITY REDUCTION

EBECRYL® 249 can be diluted with reactive monomers such as 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, tripropyleneglycol diacrylate (TPGDA)⁽¹⁾, trimethylolpropane triacrylate (TMPTA)⁽¹⁾, oligotriacrylate (OTA 480)⁽¹⁾ and EBECRYL® PEG200DMA⁽¹⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

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TYPICAL PHYSICAL PROPERTIES

Colour, Gardner	≤ 1
Density, g/ml	1.08
Functionality, theoretical	2
Reactive material, % by weight	100
Viscosity at 60°C, mPa·s	2150

TYPICAL CURED PROPERTIES

Tensile strength, MPa (psi)	12.8 (1856)
Elongation at break, %	1.2
Young's modulus ⁽¹⁾ , MPa (psi)	1140 (165343)
Glass transition temperature, °C	78

PRECAUTION

Before using EBECRYL® 249, see the Safety Data Sheet (SDS) for information on the identified hazards of the material and the recommended personal protective equipment and procedures.

STORAGE AND HANDLING

Care should be taken not to expose the product to high temperature conditions, direct sunlight, ignition sources, oxidizing agents, alkalis or acids. This might cause uncontrollable polymerization of the product with the generation of heat. Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers. Procedures that remove or displace oxygen from the material should be avoided. Do not store this material under an oxygen free atmosphere. Dry air is recommended to displace material removed from the container. Wash thoroughly after handling. Keep container tightly closed. Use with adequate ventilation.

See the SDS for the recommended storage temperature range for EBECRYL® 249.

STATUTORY LABELING

Please refer to Safety Data Sheet.