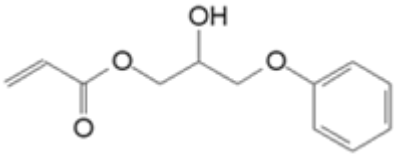
EBECRYL® 118

Technical Datasheet

PHENYLGLYCIDYL ETHER ACRYLATE



INTRODUCTION

EBECRYL® 118 is an aromatic monofunctional acrylate that can be used as a reactive diluent in ultraviolet light (UV) or electron beam (EB) curing formulations. EBECRYL® 118 is a good diluent for a variety of acrylated oligomers. In formulations, it can lower Tg and increase flexibility of the UV/EB cured polymer while maintaining strength and toughness and improving substrate adhesion.

PERFORMANCE HIGHLIGHTS

EBECRYL® 118 is characterized by:

- Low viscosity
- Secondary hydroxyl functionality

UV/EB cured products containing EBECRYL® 118 are characterized by the following performance properties:

- Good reactivity
- Improved flexibility
- Decreased Tg
- Reduced shrinkage, improved adhesion
- Moisture resistance

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

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL® 118 may be applied via direct or reverse roll, offset gravure, metering rod, slot die, knife over roll, air knife, curtain, immersion, and spin coating methods, as well as offset and screen printing. EBECRYL® 118 is recommended for use in:

- Coatings and inks with adhesion to plastics such as treated polyolefins and plasticized PVC
- Flexible coatings for paper and plastic
- 3D printing/additive manufacturing formulations
- Moisture resistant coatings

TYPICAL PHYSICAL PROPERTIES

Acid value, mg KOH/g,	<2
Appearance	Clear liquid
Color, Gardner scale	<2
Density, g/ml at 25°C	1.16
Functionality, theoretical	1
Molecular weight, theoretical	222
Refractive index (n_D at 20°C)	1.528
Viscosity at 25°C, cP/mPa·s	~215

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	1006 (6.94)
Elongation at break, %	200
Young's modulus, psi (MPa)	16252 (112)
Glass transition temperature, °C[(2)]	26

(1) UV cured 125 µ thick films.
(2) Determined by Dynamic Mechanical Analysis; tan (δ) max.

PRECAUTIONS

Before using EBECRYL® 118, 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® 118.