

MODIFIED BISPHENOL A EPOXY DIACRYLATE

**INTRODUCTION**

EBECRYL® 3721 is a modified bisphenol A epoxy diacrylate resin. EBECRYL® 3721 demonstrates increased toughness in ultraviolet light (UV) or electron beam (EB) energy cured coatings compared to standard epoxy acrylates while maintaining high reactivity and superior chemical resistance.

**PERFORMANCE HIGHLIGHTS**

EBECRYL® 3721 is characterized by:

- Good UV/EB cure response

UV/EB cured products based on EBECRYL® 3721 are characterized by the following performance properties:

- Increased toughness and impact resistance than standard bisphenol A epoxy acrylates
- Superior chemical resistance
- Good abrasion resistance
- High gloss

The final 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 3721 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, screen and flexographic printing. EBECRYL® 3721 is recommended for use in:

- Clear coatings for paper, wood, and rigid plastic
- Adhesives for paper and film lamination
- Lithographic, screen and flexographic ink vehicles

**VISCOSITY REDUCTION**

Viscosity reduction of EBECRYL® 3721 is possible with common reactive diluents such as 1,6-hexanediol diacrylate (HDDA)<sup>(1)</sup>, isobornyl acrylate (IBOA)<sup>(1)</sup>, trimethylolpropane triacrylate (TMPTA)<sup>(1)</sup> and tripropylene glycol diacrylate (TPGDA)<sup>(1)</sup>. Although viscosity reduction can be achieved with non-reactive solvents, reactive diluents are preferred because they are essentially 100 percent converted during UV/EB exposure to form a part of the coating or ink, thus reducing solvent emissions. The specific reactive diluents used will influence performance properties such as hardness and flexibility.

<sup>(1)</sup> Product of allnex

**SPECIFICATIONS**

Appearance	Clear liquid
Color, Gardner	max. 4.0
Viscosity, 65.5°C, mPa.s	3100 - 4800

**TYPICAL PHYSICAL PROPERTIES**

Density, g/cm <sup>3</sup> at 25°C	1.14
Functionality, theoretical	2
Resin, % by weight	> 97

**TYPICAL CURED PROPERTIES(3)**

Tensile strength, psi (MPa)	9318 (64.3)
Elongation at break, %	3.0
Young's modulus, psi (MPa)	459110 (3166)

**PRECAUTIONS**

Before using EBECRYL® 3721, 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® 3721.