EBECRYL® 3703

Technical Datasheet

AMINE MODIFIED BISPHENOL A EPOXY DIACRYLATE

INTRODUCTION

EBECRYL® 3703 is a modified epoxy acrylate. The product was developed specifically for applications where improved flexibility and exceptionally fast cure by exposure to ultraviolet light (UV) are desired in combination with the good solvent resistance typical of an epoxy resin.

PERFORMANCE HIGHLIGHTS

EBECRYL® 3703 is characterized by:

- Fast UV cure response

UV/EB cured products based on EBECRYL® 3703 are characterized by the following performance properties:

- Good chemical resistance
- Good flexibility
- Good abrasion resistance
- High gloss
- Enhanced adhesion to plastics

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® 3703 may be applied by lithographic, screen, gravure, direct or reverse roll, and curtain coating methods.

EBECRYL® 3703 is recommended for use in:

- Clear coatings for paper
- Topcoats for wood
- Lithographic ink vehicles

TYPICAL VALUES

Dynamic viscosity - MCR 60°C, mPa.s	3500 - 5750
Viscosity, 65.5°C, mPa.s	2000 - 2800
Color, Gardner	max. 5
Acid value, mg KOH/g	max. 5
Density, g/cm^3	1.17
Molecular weight, theoretical	850
Functionality, theoretical	2

VISCOSITY REDUCTIONS

EBECRYL® 3703 can be diluted with reactive monomers such as 1,6-hexanediol diacrylate (HDDA)[1], trimethylolpropane triacrylate (TMPTA)[1], tripropylene glycol diacrylate (TPGDA)[1] and octyl/decyl acrylate (ODA)[1].

The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

[1] product of allnex

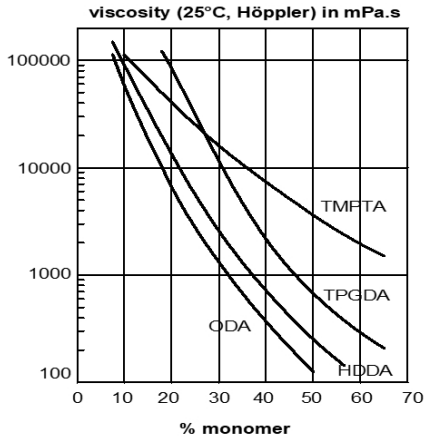
TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)[2]	5900 (41)
Elongation at break, %[2]	47
Glass transition temperature,°C[3]	57

[2] UV cured 125 µm thick films

[3] Determined by Dynamic Mechanical Analysis

The graph shows the viscosity reduction of EBECRYL® 3703 as a function of the concentration of different monomers.



STORAGE AND HANDLING

Care should be taken not to expose radiation curable products to temperatures exceeding 40°C for prolonged periods or to direct sunlight. This might cause uncontrollable polymerization of the product with generation of heat.

Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers. Do not store this material under an oxygen free atmosphere. Use dry air to displace material removed from the container. This material should not be stored for more than 2 years.

PRECAUTIONS

The following is a summary of the precautions to be taken when handling this product. Please refer to the Safety Data Sheet for further details.

The toxicological properties of this material have not been fully determined. Products of this type can be expected to be eye and skin irritant and have the potential to cause sensitization or other allergic responses. Appropriate precautions should be taken to avoid eye and skin contact and to avoid inhalation of the aerosols or vapours. Consult the relevant Safety Data Sheet for appropriate handling procedures and protective equipment prior to using this or any other material referred to in this bulletin.

See Safety Data Sheet for emergency and first aid procedures.

STATUTORY LABELING

For Statutory Labeling information, please refer to Safety Data Sheet.