

BISPHENOL A EPOXY DIACRYLATE

INTRODUCTION

EBECRYL® 3720-D20 is the bisphenol A epoxy diacrylate, EBECRYL® 3720, diluted 20% by weight with the reactive diluent dipropylene glycol diacrylate (DPGDA) to provide a lower viscosity, easier handling product. EBECRYL® 3720-D20 exhibits light color and fast cure response. Films of EBECRYL® 3720-D20 cured via ultraviolet light (UV) or electron beam (EB) demonstrate high gloss, surface hardness, and superior chemical resistance.

PERFORMANCE HIGHLIGHTS

EBECRYL® 3720-D20 is characterized by:

- Light color
- Moderate viscosity
- Fast cure response

UV/EB cured products based on EBECRYL® 3720-D20 are characterized by the following performance properties:

- High surface hardness
- High gloss
- Good chemical 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® 3720-D20 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 screen printing. EBECRYL® 3720-D20 is recommended for use in:

- Coatings for wood, chipboard, and paper
- Overprint varnishes
- Screen print inks and coatings
- Adhesives for paper laminations
- Wood fillers

SPECIFICATIONS

Acid value, mg KOH/g	max. 1.68
Appearance	Clear liquid
Color, Gardner	max. 2

TYPICAL PHYSICAL PROPERTIES

Density, g/cm ³ at 25°C	1.16
Epoxy content, %	< 0.32
Functionality, theoretical	2
Oligomer, % by weight	80
DPGDA, % by weight	20
Viscosity, 25°C, mPa.s	~20000

VISCOSITY REDUCTION

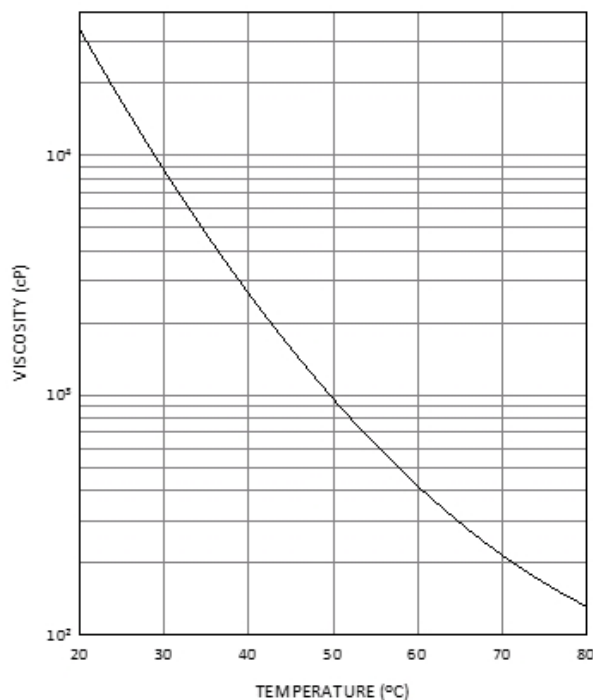
The viscosity of EBECRYL® 3720-D20 can be reduced with additional DPGDA⁽¹⁾ or other reactive diluents such as 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, isobornyl acrylate (IBOA)⁽¹⁾ and trimethylolpropane triacrylate (TMPTA)⁽¹⁾. Although viscosity reduction can be achieved with non-reactive solvents, reactive 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.

⁽¹⁾ product of allnex

Graph I illustrates the change in viscosity of EBECRYL 3720 with increasing temperature.

GRAPH I

EBECRYL® 3720-D20 - VISCOSITY VS. TEMPERATURE



PRECAUTIONS

Before using EBECRYL® 3720-D20, 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® 3720-D20.