

EBECRYL® 605/20

Bisphenol A Epoxy Diacrylate

INTRODUCTION

EBECRYL 605/20 is the bisphenol A epoxy diacrylate, EBECRYL 600, diluted 20% by weight with the reactive diluent tripropylene glycol diacrylate (TPGDA)⁽¹⁾ to provide a lower viscosity, easier handling product. EBECRYL 605/20 exhibits light color and fast cure response. Films of EBECRYL 605/20 cured via ultraviolet light (UV) or electron beam (EB) demonstrate high gloss, surface hardness, and the superior chemical resistance typical of an epoxy resin.

PERFORMANCE HIGHLIGHTS

EBECRYL 605/20 is characterized by:

- Light color
- Low viscosity
- Fast cure response

UV/EB cured products based on EBECRYL 605/20 are characterized by the following performance properties:

- Good 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 photoinitiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL 605/20 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 605/20 is recommended for use in:

- Overprint varnishes
- Coatings for wood, chipboard, paper and rigid plastics
- Paper upgrading
- Screen print inks and coatings
- Adhesive for paper laminations
- Wood fillers

SPECIFICATIONS

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

TYPICAL PHYSICAL PROPERTIES

Density, g/ml at 25°C	1.14
% Epoxide	<0.4
Functionality, theoretical ⁽³⁾	2
Oligomer, % by weight	80
TPGDA, % by weight	20
Viscosity at 25°C, cP	~25000

TYPICAL CURED PROPERTIES⁽⁴⁾

Tensile strength, psi	10800
Elongation at break, %	3.8
Young's modulus, psi	462000

VISCOSITY REDUCTION

EBECRYL 605/20 can be further diluted with additional TPGDA or other reactive monomers such as dipropylene glycol diacrylate (DPGDA)⁽¹⁾, 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, propoxylated glycerol triacrylate (OTA-480)⁽¹⁾, or trimethylolpropane triacrylate (TMPTA)⁽¹⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

(1) Product of Allnex

(2) Theoretical determination based on the undiluted oligomer.

(3) UV cured 125 μ thick films.

STORAGE AND HANDLING

Before using EBECRYL 605/20, consult the Safety Data Sheet for additional information on safety and handling procedures, and recommended personal protective equipment.

The recommended storage temperature range for EBECRYL 605/20 is 4°C to 40°C (39°F to 104°F). 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.

PRECAUTIONS

Avoid contact with eyes, skin and clothing. Direct contact with this material may cause skin irritation and serious eye irritation. Repeated or prolonged dermal contact may cause allergic skin reactions. Wash thoroughly after handling. Use with adequate ventilation. Keep container closed.

Please refer to the Allnex Guide to Safety and Handling of Acrylate Oligomers and Monomers for additional information on the safe handling of acrylates.

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