

EBECRYL® 640-20 TO

EPOXY ACRYLATE OLIGOMER

February 2017



INTRODUCTION

Ebecryl®640/20 TO is a modified diacrylate ester of bisphenol A epoxy resin. This product is characterized by its light colour, fast cure response and improved pigment wetting. Films of Ebecryl®640/20 TO cured by ultraviolet light (UV) or electron beam (EB) exhibit high surface hardness and gloss and the excellent solvent resistance typical of an epoxy resin. Ebecryl®640/20 TO finds broad use in UV/EB applications, such as inks, coatings and overprint varnishes.

PERFORMANCE HIGHLIGHTS

Ebecryl®640/20 TO is characterised by :

- ✓ Light colour
- ✓ Fast cure response
- ✓ Low irritancy
- ✓ Improved pigment wetting

UV/EB cured products based on Ebecryl®640/20 TO are characterised by the following performance properties :

- ✓ High surface hardness
- ✓ High gloss
- ✓ Excellent solvent resistance
- ✓ Good water resistance

The actual properties of UV/EB cured products also depend on the selection of the other formulation components, such as reactive diluent(s), additives and photoinitiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing Ebecryl®640/20 TO may be applied by lithographic, screen, gravure, direct or reverse roll, and curtain coating methods. Ebecryl®640/20 TO is recommended for use in :

- ✓ Overprint varnishes
- ✓ Lithographic and screen inks
- ✓ Coatings for paper, paperboard, wood, chipboard and rigid plastics
- ✓ Paper upgrading
- ✓ Fast cure response
- ✓ Laminating adhesives
- ✓ Wood sealers and top coats

TYPICAL VALUES

Höppler viscosity at 25°C, mPa.sca. 75000
 Colour, Gardner max. 3

PHYSICAL PROPERTIES

Density, g/cm ³	1.15
Molecular weight, theoretical	ca. 500
Functionality, theoretical	2
Polymer solids, % by weight	100

VISCOSITY REDUCTION

Ebecryl®640/20 TO can be diluted with reactive monomers such as 1,6 hexanediol diacrylate (HDDA)⁽¹⁾, tripropylene glycol diacrylate (TPGDA)⁽¹⁾, trimethylolpropane triacrylate (TMPTA)⁽¹⁾ and oligotriacrylate (OTA 480)⁽¹⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

(1) HDDA, TPGDA, TMPTA and OTA 480 are produced by Allnex

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.

PRECAUTION

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 LABELLING

Please refer to Safety Data Sheet.

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