

EBECRYL® 1657

PURIFIED POLYESTER ACRYLATE OLIGOMER

February 2017



The Coating Resins Company

INTRODUCTION

Ebecryl®1657 is a purified version of Ebecryl 657, a tetrafunctional polyester acrylate oligomer and was developed for applications where low odour and low extractability are required. Ebecryl®1657 may be cured by ultraviolet light (UV) or electron beam (EB) and displays outstanding lithographic behaviour, pigment wetting properties and low irritancy.

PERFORMANCE HIGHLIGHTS

Ebecryl®1657 is characterized by :

- ✓ Low irritancy
- ✓ Low odour
- ✓ Good pigment wetting
- ✓ Outstanding lithographic behaviour

UV/EB cured products based on Ebecryl®1657 are characterized by the following performance properties:

- ✓ Low extractables

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®1657 may be applied by lithographic, screen, gravure, direct or reverse roll, and curtain coating methods.

Ebecryl®1657 is recommended for use in:

- ✓ Lithographic inks with low extractability when formulated in conjunction with other purified products and additives
- ✓ Coatings on paper, metals and plastics

TYPICAL VALUES

Höppler viscosity at 60°C, mPa.s	± 3500
Colour	dark
Acid value, mg KOH/g	max. 20
Draize PII	1.4
Irritation by OECD	0

VISCOSITY REDUCTION

Ebecryl®1657 can be diluted with reactive monomers such as trimethylolpropane triacrylate (TMPTA)⁽²⁾, oligotriacrylate (OTA 480)⁽²⁾, tripropyleneglycol diacrylate (TPGDA)⁽²⁾, 1,6 hexanediol diacrylate (HDDA)⁽²⁾ and octyl/decyl acrylate (ODA)⁽²⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

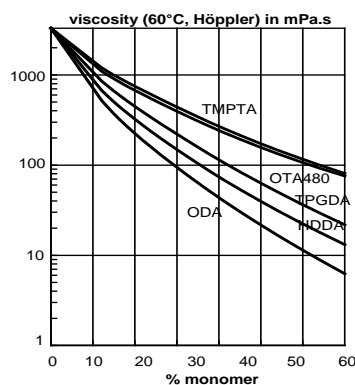
PHYSICAL PROPERTIES

Density, g/cm ³	1.17
Molecular weight, theoretical	500
Functionality, theoretical	2
Polymer solids, % by weight	80
OTA 480, % by weight	20

TYPICAL CURED PROPERTIES

Tensile strength, MPa(1)	30
Tensile elongation, %(1)	23

The graph shows the viscosity reduction of Ebecryl®1657 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.

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

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

- (1) Measured on a 125 μ UV cured film
- (2) TMPTA, OTA 480, TPGDA, HDDA and ODA are produced by Allnex.

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