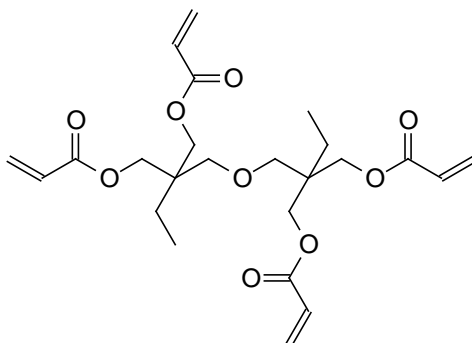


EBECRYL® 140

Ditrimethylolpropane Tetraacrylate

March 2017



INTRODUCTION

EBECRYL 140 is ditrimethylolpropane tetraacrylate, a reactive diluent exhibiting good cure response and light color. The addition of relatively small amounts of EBECRYL 140 to ultraviolet light (UV) and electron beam (EB) curable coatings and inks can provide substantial improvements in cure response, hardness, and chemical, scratch, and abrasion resistance. EBECRYL 140 is particularly useful in lithographic offset inks and overprint varnishes.

PERFORMANCE HIGHLIGHTS

EBECRYL 140 is characterized by:

- Light color
- Good cure response
- Low irritancy

UV/EB cured products based on EBECRYL 140 are characterized by the following performance properties:

- Flexibility while retaining hardness
- High abrasion resistance
- Good chemical resistance

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

SUGGESTED APPLICATIONS

EBECRYL 140 is a reactive diluent that is compatible with a wide range of acrylated resins used in UV/EB curing applications. Effective levels of EBECRYL 140 typically range from 10% to 30%, depending on the application. In lithographic inks and varnishes it is quite effective in adjusting viscosity while maintaining or improving cure response and physical properties. The high functionality of EBECRYL 140 provides increased crosslink density in UV/EB cured coatings, which can help improve gloss, hardness, and durability.

SPECIFICATIONS

	VALUE
Acid value, mg KOH/g, max.	10
Appearance	Clear liquid
Color, Pt-Co scale ⁽¹⁾ , max.	200
Viscosity, 25°C, cP/mPa·s	800-1200

TYPICAL PHYSICAL PROPERTIES

Density, g/ml at 25°C	1.08
Flash point, Setaflash, °C	>100
Formula weight	466
Functionality, theoretical	4

TYPICAL CURED PROPERTIES⁽²⁾

Tensile strength, psi (MPa)	5300 (37)
Elongation at break, %	2.5
Young's modulus, psi (MPa)	225000 (1552)
Glass transition temperature, °C ⁽³⁾	81

CHEMICAL ABSTRACT SERVICE NUMBER

94108-97-1

2-propenoic acid, 2-[[2,2-bis[[[1-(1-oxo-2-propenyl)oxy]methyl]butoxy]methyl]-2-ethyl-2-propenoic acid, 2-[[2,2-bis[[[1-(1-oxo-2-propenyl)oxy]methyl]butoxy]methyl]-2-ethyl-1,3-propanediyl ester]; hyl-1,3-propanediyl ester

(1) Also referred to as APHA color.

(2) UV cured 125 μ thick films.

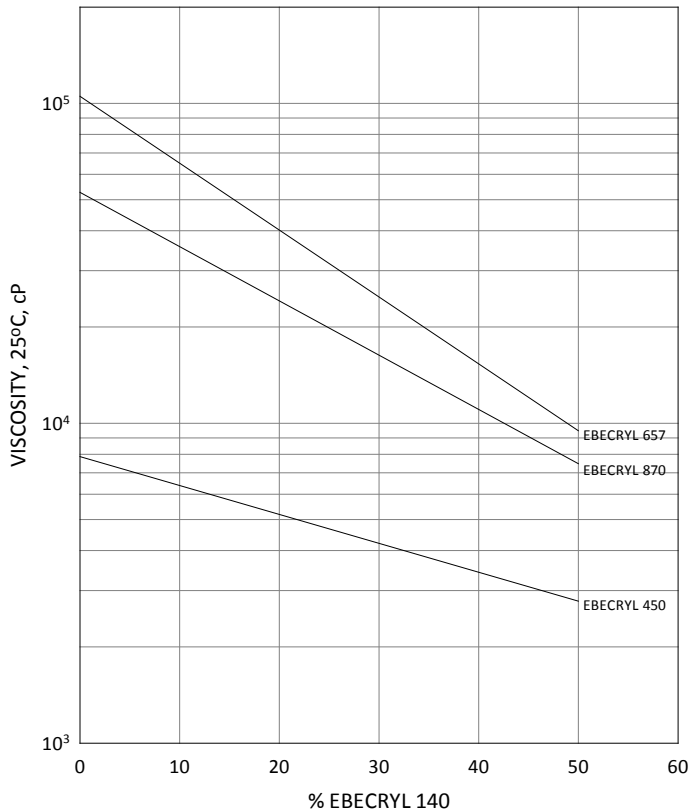
(3) Determined by Dynamic Mechanical Analysis.

VISCOSITY REDUCTION

Graph I illustrates the viscosity reduction of several EBECRYL lithographic ink vehicles⁽¹⁾ when blended with EBECRYL 140.

GRAPH I

EBECRYL 140 – DILUENCY EFFECT ON VISCOUS OLIGOMERS



PRECAUTIONS

Before using EBECRYL 140, 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 140.

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

(1) Product of allnex

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