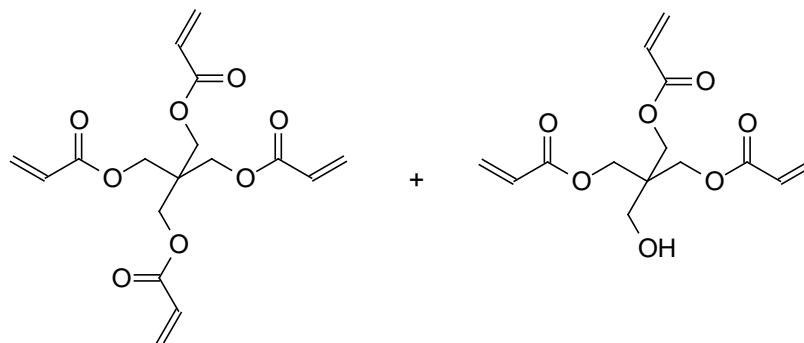


EBECRYL® 180

Pentaerythritol Acrylate

March 2017



Tetra- to tri- acrylate ester ratio ~ 2/1

INTRODUCTION

EBECRYL 180 is a multifunctional reactive diluent with a high degree of acrylic unsaturation and finds use in a variety of ultraviolet light (UV) and electron beam (EB) curable coatings and ink systems where a high degree of crosslinking is desired. EBECRYL 180 is a mixture of predominantly the tri- and tetra-acrylate esters of pentaerythritol. EBECRYL 180 has a higher ratio of tetra- to tri-acrylate ester than the similar product PETIA, and therefore typically crystallizes at normal ambient temperatures.

PERFORMANCE HIGHLIGHTS

EBECRYL 180 is characterized by:

- High acrylate functionality
- Residual hydroxyl content
- Very low vapor pressure

UV/EB curable formulated products containing EBECRYL 180 are characterized by:

- Rapid photo response
- High cross-link density
- Excellent hardness and scratch resistance
- Excellent 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 180 is an especially useful reactive diluent in UV/EB cured coatings and inks where fast cure speed, hardness, scratch resistance and high gloss properties are required.

SPECIFICATIONS

	VALUE
Acid value, mg KOH/g, max.	1.0
Appearance	Clear liquid
Color, Pt-Co scale ⁽¹⁾ , max.	100
Viscosity, 25°C, cP/mPa·s	400-1000
Water content, %, max.	0.1

TYPICAL PHYSICAL PROPERTIES

Density, g/ml at 25°C	1.18
Flash point, Setflash, °C	>100
Formula weight, triacrylate	298
tetraacrylate	352
Vapor pressure, mm Hg, at 25°C	<0.001
at 100°C	<0.01
Inhibitor (MeHQ) content, ppm	400
Melting point, °C	25-40
Residual solvent, wt. %	<0.1

CHEMICAL ABSTRACT SERVICE NUMBER

3524-68-3
2-Propenoic acid, 2-(hydroxymethyl)-2-[[[(1-oxo-2-propenyl) oxy]methyl]-1,3-propanediyl ester

4986-89-4
2-Propenoic acid, 2,2-bis[[[(1-oxo-2-propenyl) oxy]methyl]-1,3-propanediyl ester

(1) Also referred to as APHA color.

PRECAUTIONS

Before using EBECRYL 180, 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 180.

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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