TECHNICAL DATASHEET

EBECRYL® 210

Aromatic Urethane Diacrylate

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EBECRYL® UV/EB Energy Curable Resins

INTRODUCTION

EBECRYL 210 is an aromatic urethane diacrylate. Films of EBECRYL 210 cured by ultraviolet light (UV) or electron beam (EB) exhibit good flexibility, low color and good adhesion to various substrates.

PERFORMANCE HIGHLIGHTS

EBECRYL 210 is characterized by:

- Light color
- Low odor

UV/EB cured products containing EBECRYL 210 are characterized by the following performance properties:

- Adhesion to various substrates
- Good flexibility
- Reduced Tg

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 210 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 flexographic and screen printing. EBECRYL 210 is recommended for:

- Coatings on rigid and flexible plastics
- Wood coatings
- Screen inks
- Low gloss coatings
- Conformal coatings
- A modifying oligomer to increase flexibility

SPECIFICATIONS	VALUE
Appearance	Clear liquid
Color, Gardner scale, max.	2
Viscosity, 60°C, cP/mPa·s	3600-4600

TYPICAL PHYSICAL PROPERTIES

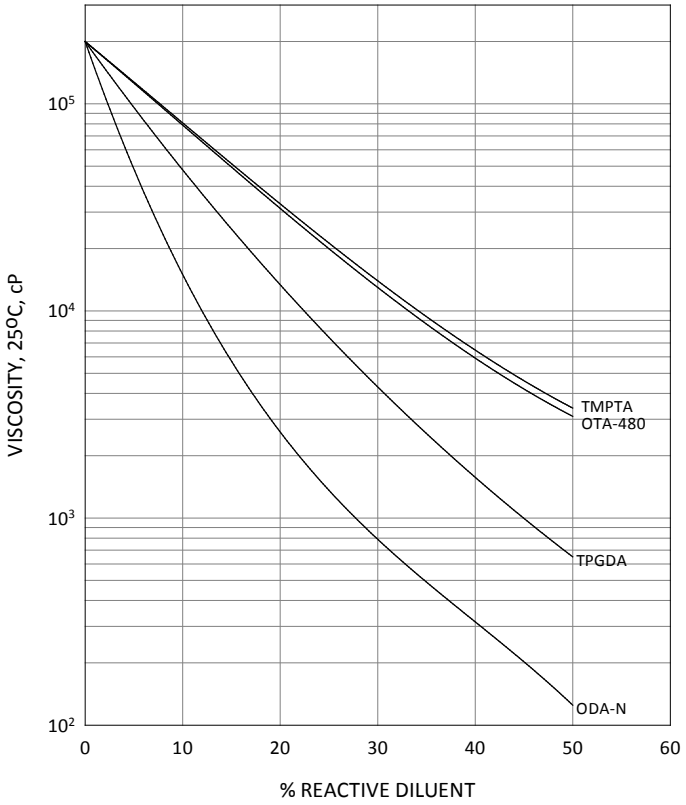
Density, g/ml at 25°C	1.11
Functionality, theoretical[(1)]	2
NCO, %	<0.2
Oligomer, % by weight	100

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)[(2)]	2218 (15.3)
Elongation at break, %[(2)]	64
Glass transition temperature, °C[(3)]	-19

GRAPH I

EBECRYL 210 - VISCOSITY REDUCTION WITH REACTIVE DILUENTS



(1) Theoretical determination based on the undiluted oligomer.
(2) UV cured 125 µ thick films.
(3) Determined by Dynamic Mechanical Analysis.

VISCOSITY REDUCTION

Graph I shows the viscosity reduction of EBECRYL 210 with octyl/decyl acrylate (ODA-N)[(1)], propoxylated glycerol triacrylate (OTA-480)[(1)], trimethylolpropane triacrylate (TMPTA)[(1)], and tripropylene glycol diacrylate (TPGDA)[(1)]. Although viscosity reduction can be achieved with non-reactive solvents, reactive diluents are preferred because they are essentially 100 percent converted during UV/EB exposure to form a part of the coating or ink, thus reducing solvent emissions. The specific reactive diluents used will influence performance properties such as hardness and flexibility.

PRECAUTIONS

Before using EBECRYL 210, 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 210.

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

www.allnex.com