

EBECRYL® 2221

Tin-free⁽¹⁾ Aromatic Urethane Hexaacrylate

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INTRODUCTION

EBECRYL 2221 is a hexafunctional aromatic urethane acrylate that provides very fast cure response when exposed to ultraviolet light (UV) or an electron beam (EB). Cured films of EBECRYL 2221 exhibit good hardness and solvent resistance.

PERFORMANCE HIGHLIGHTS

EBECRYL 2221 is characterized by:

- Light color
- Moderate viscosity

UV/EB cured products based on EBECRYL 2221 are characterized by the following performance properties:

- High reactivity
- Good hardness and scratch resistance
- Good solvent resistance

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 2221 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 offset and screen printing. EBECRYL 2221 is recommended for:

- Wood coatings and fillers
- Lithographic inks
- Improving cure speed, solvent resistance, and gloss

VISCOSITY REDUCTION

Viscosity reduction of EBECRYL 2221 can be achieved with reactive diluents such as 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, isobornyl acrylate (IBOA)⁽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.

(1) Does not contain intentionally added organic tin compounds

(2) Product of allnex

(3) Theoretical determination based on the undiluted oligomer.

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SPECIFICATIONS

	VALUE
Appearance	Clear liquid
Color, Gardner scale, max.	2

TYPICAL PROPERTIES

Density, g/ml at 25°C	1.18
Functionality, theoretical ⁽²⁾	6
Oligomer, % by weight	100
Viscosity, 25°C, cP/mPa·s	~20000

PRECAUTIONS

Before using EBECRYL 2221, 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 2221.

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