TECHNICAL DATASHEET

EBECRYL® 4150

Isocyanate Functional Urethane Acrylate

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EBECRYL® UV/EB Energy Curable Resins

INTRODUCTION

EBECRYL 4150 is an undiluted isocyanate functional urethane acrylate designed for use in two component dual cure systems for coatings on wood, plastic and metal.

SUGGESTED APPLICATIONS

Formulations with EBECRYL 4150 can be used for;

- UV/EB curable, two component polyurethane coatings
- Adhesion promotion in UV/EB curing coatings

EBECRYL 4150 can be combined with hydroxyl functional resins to formulate coatings which cure by dual processes; UV/EB induced polymerization and NCO/OH reaction.

The product is also used in pure UV curing coatings to improve the adhesion on critical substrates as plastic, metal and exotic woods.

FORMULATING

The viscosity of EBECRYL 4150 can be reduced using standard reactive diluents such as dipropylene glycol diacrylate (DPGDA)(1), 1,6-hexanediol diacrylate (HDDA)(1), isobornyl acrylate (IBOA)(1), and trimethylolpropane triacrylate (TMPTA)(1) Suitable solvents are esters, ketones and aromatic hydrocarbons.

Reactive diluents and solvents containing reactive groups such as hydroxyl or amine groups strongly influence pot life and thus storage stability.

Coatings containing EBECRYL 4150 are applied by spray, curtain or roller coating at ≤ 100g/m² coat weight. After an adequate flash-off time of solvents (if any), the coatings are UV/EB cured. This creates a tack free and dust-dry surface. Following UV/EB curing, the post-reaction of NCO/OH groups takes place at room temperature or is forced. This results in good adhesion and good mechanical and chemical resistance of the coating.

EBECRYL 4150 has good compatibility with esters, ketones and aromatic hydrocarbons such as ethyl acetate, butyl acetate, methoxypropyl acetate, acetone, methyl ethyl ketone, methyl isobutyl ketone, xylene and mixtures thereof.

Only pure grade solvents should be used (max 0.05% water). EBECRYL 4150 should not be thinned below a non-volatile content of 40%. Prolonged storage of a solution with lower binder content may result in turbidity, sedimentation or even gelling.

Because of the many possible combinations with thinners and solvents, the compatibility and storage stability must be tested in each individual case.

SPECIFICATIONS	VALUE
Color, Pt-Co scale(2), max.	150
NCO content, %	11.8-13.8
Viscosity, 23°C, cP/mPa·s	7500-12500

TYPICAL PHYSICAL PROPERTIES

Density, g/ml at 20°C	1.18
Flash point, °C	>100
Functionality, acrylate groups	1
Functionality, NCO groups	2

PRECAUTIONS

Before using EBECRYL 4150, 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, acids or water. 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. The product is sensitive to moisture. Skin formation may occur in opened containers. 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 4150.

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
(2) Also referred to as APHA/Hazen color

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