

SPECIALTY RESIN FOR EASY-TO-CLEAN SURFACE EFFECT

### INTRODUCTION

EBECRYL® 8110 is a novel<sup>(1)</sup> energy curable specialty resin developed to enhance coatings with long lasting easy-to-clean (E2C) surface property. Coatings based on EBECRYL® 8110 cured by ultraviolet light (UV) or electron beam (EB) exhibit oil and water repellent effect (high contact angle) and easy removal of fingerprints, oils, dust and other contaminants from coatings surfaces.

<sup>(1)</sup> patent pending

### PERFORMANCE HIGHLIGHTS

EBECRYL® 8110 is characterized by:

- Low viscosity

UV/EB cured coatings containing approx. 25 % EBECRYL® 8110 (recommended concentration) are characterized by the following performance properties:

- Easy-to-clean fingerprint without smudge,
- Outstanding resistance to mechanical wear,
- Unique long lasting E2C surface effect,
- Oil and water repellent – low surface energy,
- Excellent chemical resistance
- Resistance to permanent oil markers & inks

The actual properties of UV/EB cured products also depend on the selection of other formulation components, such as reactive diluents, additives and photo initiators, as well as curing conditions.

### SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL® 8110 may be applied via direct or reverse roll, offset gravure, metering rod/bar coater, slot die, knife over roll, air knife, curtain, immersion, spray, roll to roll and spin coating methods, as well as screen printing.

EBECRYL® 8110 is recommended for use in:

- Consumer electronics (casing & display)
- Optical film
- Display partitions & color resist
- Luxury packaging,
- Consumer goods
- High gloss & metallic finishes

### SPECIFICATIONS

Appearance	Clear to slightly hazy liquid
Viscosity, 25°C, mPa.s	1300 - 1900

### TYPICAL PROPERTIES

Density, g/cm <sup>3</sup> at 25°C	1.176
Solids, % by weight	100

### STARTING POINT FORMULATION - E2C UV HARDCOAT

COMPONENT	Pct
EBECRYL® 8301-R <sup>(2)</sup>	:
EBECRYL® 8110	:
TMPTA	:
PETIA	:
Esacure® KS 300 <sup>(3)</sup>	:
CURED COATING PROPERTIES	
Contact angle, Deionized water, avg. ± σ	111.4°
n-Hexadecane, avg. ± σ	68.8°

The formulation was applied at 10 g/m<sup>2</sup> on a 250 µm polycarbonate sheet and UV cured with an energy level of 3 J/cm<sup>2</sup>. The high contact angle values confirm the high hydrophobic and oleophobic surface of the cured coating. The same coating allows a fingerprint to be removed with 2 dry wipes.

<sup>(2)</sup> EBECRYL® 1290 or EBECRYL® 1290N (available in Asia Pacific) can also be used. Products of allnex

<sup>(3)</sup> Product of Lamberti

### FORMULATION GUIDLINES

The formulated coating containing EBECRYL® 8110 may exhibit some slight haze which is typically not visible when applied as a coating and cured. If the cured coating containing EBECRYL® 8110 does exhibit haze, it is recommended the level of EBECRYL® 8110 be adjusted and/or NPG(PO)2DA (neopentyl glycol propoxylate diacrylate) be added to the formulation.

### PRECAUTIONS

Before using EBECRYL® 8110, 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® 8110.