

ACRYLATED POLYAMINE

INTRODUCTION

EBECRYL® LED 04 is an acrylated polyamine that can be added as a co-resin to UV curable formulations. EBECRYL® LED 04 – when combined with an appropriate photo initiator system – transforms formulations into UV LED, UVA, or low energy curable systems by providing improved surface cure. In addition, this effect is also seen in high energy cure formulations. The improved surface cure is obtained by mitigating oxygen inhibition of the free radical process and/or by being an amine synergist for Norrish type II photo initiators.

Coating and inks based on EBECRYL® LED 04 exhibit a low odor after UV or EB curing. Due to its hydrophobic nature EBECRYL® LED 04 can also be used in offset inks applications as a replacement of aminobenzoate synergists.

PERFORMANCE HIGHLIGHTS

UV/EB cured products based on EBECRYL® LED 04 are characterized by the following performance properties:

- Good (surface) cure response
- Good ink water balance
- High gloss
- Low odor

The actual properties of UV/EB cured products also depend on the selection of other formulation components such as the main binder, reactive diluents, additives and photo initiator system.

SUGGESTED APPLICATION

EBECRYL® LED 04 is recommended as a co-resin (5 - 20 w% on formulation) to increase surface cure of formulations for overprint varnishes, coatings, flexographic-, gravure-, screen- and offset inks that are cured with UV LED, UVA or low energy lamps.

TYPICAL VALUES

Appearance	Clear liquid
Color, Gardner	max. 3
Density, g/cm ³ at 25°C	1.03
Acrylate Functionality (theoretical)	6
Nitrogen content, %	2.7
Viscosity at 25°C, mPa.s	~17500

COMPATIBILITY

EBECRYL® LED 04 is compatible with a broad range of selected resins of different chemical families, such as urethane acrylates, polyester acrylates, and epoxy acrylates. EBECRYL® LED 04 is also compatible with alkali additives.

However, EBECRYL® LED 04 is not compatible with all resins, and this should be checked prior to use. Acidic resins, such as some adhesion promoters, should not be used in combination with EBECRYL® LED 04 as all advantage will be eliminated when quaternary ammonium salts are formed.

STORAGE AND HANDLING

Before using EBECRYL® LED 04, consult the Safety Data Sheet for additional information on hazards, handling procedures, and recommended protective equipment.

The recommended storage temperature for EBECRYL® LED 04 is 4°C to 40°C. 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. EBECRYL® LED 04 should be used within 1 year after production.

PRECAUTION

Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Direct contact with this material may cause minimal eye and skin irritation. Contact with skin may cause a cross-allergic reaction in persons already sensitized to acrylate materials. Wash thoroughly after handling. Keep container tightly closed. Use with adequate ventilation.

STATUTORY LABELING

Please refer to Safety Data Sheet.