

ACIDIC METHACRYLATE

INTRODUCTION

EBECRYL® 171 is an acidic methacrylate adhesion promoter designed as an additive for ultraviolet (UV) and electron beam (EB) curable coatings on metals, glass and some plastics. While similar to EBECRYL® 170, EBECRYL® 171 often exhibits superior adhesion promotion. However, EBECRYL® 171 exhibits better general compatibility with acrylate diluents and oligomers than does EBECRYL® 170.

PERFORMANCE HIGHLIGHTS

EBECRYL® 171 is characterized by:

- Light color
- Low viscosity
- Acid functionality

UV/EB curable formulated products containing EBECRYL® 171 are characterized by:

- Good adhesion to metal, glass and some plastic substrates
- Adhesion after coating deformation

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.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL® 171 may be applied via direct or reverse roll, offset gravure, metering rod, slot die, knife over roll, air knife, curtain and immersion coating methods. EBECRYL® 171 is recommended for use in:

- General metal coatings and primers
- Coatings for galvanized pipe and tube
- Coatings on glass and some plastics
- Coil coatings
- Solder resist formulations

SPECIFICATIONS

Acid value, mg KOH/g	250 - 330
Appearance	Clear liquid
Color, Gardner	max. 1.5
Viscosity, 25°C, cone/plate, mPa.s	900 - 1900
Viscosity, 25°C, Höppler, mPa.s	850 - 1850

TYPICAL PHYSICAL PROPERTIES

Density, g/cm ³ at 25°C	1.27
Functionality, theoretical	~1.5
Oligomer, % by weight	100

NOTES ON USAGE

Typical usage level is between 1% and 5% by weight of the total formulation. Due to its acidic character, EBECRYL® 171 can undergo hydrolysis, and therefore formulations containing EBECRYL® 171 should be protected from humidity. Since EBECRYL® 171 can react with alkaline materials, free amines, amino acrylates, basic pigments and N-vinyl-2-pyrrolidone should not be used in combination with EBECRYL® 171. Formulations may exhibit turbidity with the addition of EBECRYL® 171, though such turbidity may not be immediately apparent. The presence of turbidity is not normally indicative of coating performance problems, though in severe instances, separation or precipitation may occur.

PRECAUTIONS

Before using EBECRYL® 171, 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. This material should not be stored for more than 2 years.

Contamination of EBECRYL® 171 with acetone or other ketones can cause coloration of the product during storage.

See the SDS for the recommended storage temperature range for EBECRYL® 171.