

URETHANE ACRYLATE OLIGOMER

INTRODUCTION

EBECRYL® 8409 is a low viscosity aliphatic urethane diacrylate. Films of EBECRYL® 8409 cured by ultraviolet light (UV) or electron beam (EB) exhibit good flexibility, toughness and excellent exterior durability. Low viscosity coatings or enhanced performance via increased oligomer content are possible with EBECRYL® 8409. Note that EBECRYL® 8409 typically develops a semi-crystalline aspect upon storage. For additional information, please refer to the Storage and Handling section.

PERFORMANCE DATA

EBECRYL® 8409 is characterized by:

- Low viscosity for handling ease
- Light colour

UV/EB cured products based on EBECRYL® 8409 are characterized by the following performance properties:

- Toughness
- Good flexibility
- Exterior durability
- Non-yellowing
- Excellent adhesion to difficult surfaces

The actual properties of UV/EB cured products also depend on the selection of the other formulation components, such as reactive diluent(s), additives and photo initiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL® 8409 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 flexographic and screen printing.

EBECRYL® 8409 is recommended for use in:

- Coatings for wood
- Coatings for plastics
- Flexographic inks
- Screen inks
- Exterior durable coatings

SPECIFICATIONS

Appearance	Clear liquid
Viscosity, 60°C, mPa.s	650 - 950
Viscosity, 65.5°C, mPa.s	450 - 650
Colour, Gardner	max. 1

PHYSICAL PROPERTIES

Density, g/cm ³	1.16
Molecular weight, theoretical	100
Functionality, theoretical	2
Polymer solids, % by weight	100

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	3900 (27)
Elongation at break, %	47
Young's modulus, psi (MPa)	95000 (650)
Glass transition temperature, °C	55

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.

Upon storage, EBECRYL® 8409 may show signs of crystallization. This crystallization can be removed by heating containers of EBECRYL® 8409 to a uniform temperature of 60°C. Ovens or hotboxes are recommended methods of heating.

Heating tapes should not be used. In typical formulations, EBECRYL® 8409 does not exhibit signs of crystallization.

See the SDS for the recommended storage temperature range for EBECRYL® 8409.

PRECAUTION

Before using EBECRYL® 8409, see the Safety Data Sheet (SDS) for information on the identified hazards of the material and the recommended personal protective equipment and procedures.

STATUTORY LABELING

Please refer to Safety Data Sheet.