CYTEC

TECHNICAL DATA SHEET

EBECRYL® 8309

Low Energy Cure Resin for Automotive Refinish and Metal

INTRODUCTION

EBECRYL 8309 is an aliphatic urethane acrylate designed for use as a topcoat or primer in automotive refinish and metal applications. Films of EBECRYL 8309 exhibit a high surface hardness combined with a unique blend of flexibility and toughness typically not observed in higher functional acrylate oligomers. EBECRYL 8309 contains isobornyl acrylate (IBOA)(1) as a reactive diluent.

PERFORMANCE HIGHLIGHTS

EBECRYL 8309 is characterized by:

- Outstanding surface cure under low light intensity conditions
- Excellent adhesion to metal, metallic, and various automotive substrates
- Good wetting of inert and reactive fillers
- 1K package configuration with 2K performance properties for automotive refinish primers

UVA cured products containing EBECRYL 8309 are characterized by the following performance properties:

- High surface hardness
- Improved impact resistance
- Flexible and tough

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

SUGGESTED APPLICATIONS

EBECRYL 8309 is recommended for use in:

- Low energy cure application
- Automotive end of line spot repair
- Flexible filled coatings
- Metallized plastics
- Metal
- Thin film solar cell

USAGE

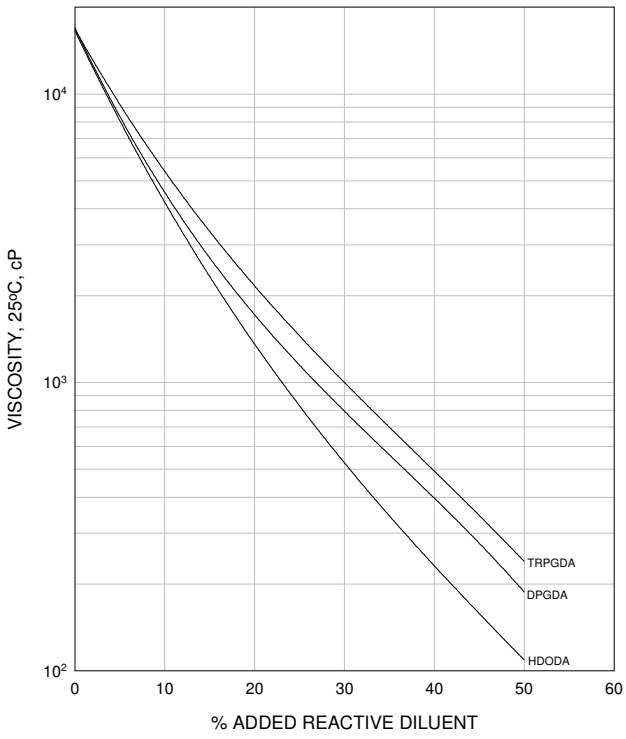
EBECRYL 8309 will typically constitute between 40 and 60% of the final UVA curable refinish primer.

SPECIFICATIONS	SMT(2)	VALUE
Appearance	002-A	Clear to hazy liquid

TYPICAL PHYSICAL PROPERTIES	
Color, Gardner scale	<3
Density, g/ml at 25°C	1.10
Functionality, theoretical (3)	3.7
Oligomer, % by weight	80
Viscosity at 25°C, cP	12000

TYPICAL CURED PROPERTIES(4)	
Tensile, psi	6000
Elongation at break, %	6.0
Modulus, psi	235000
Toughness, psi	350

Graph I
EBECRYL 8309
Viscosity Reduction with Reactive Diluents



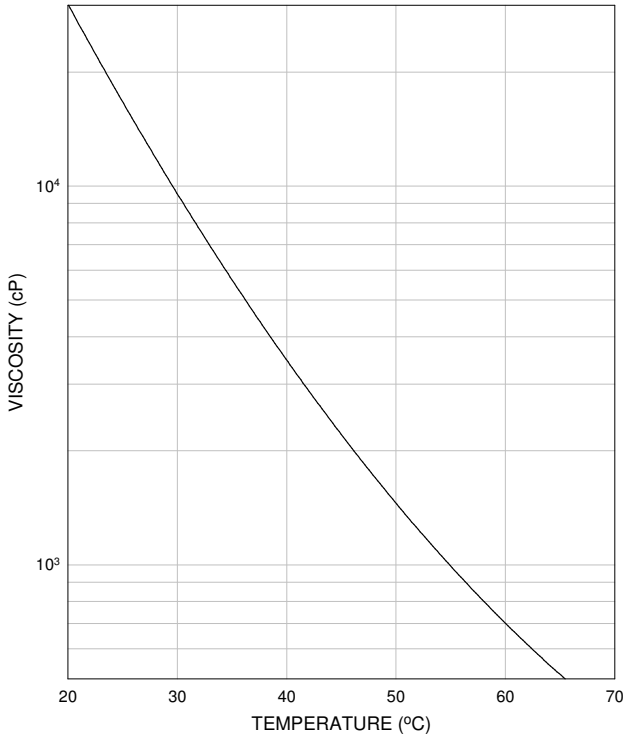
(1) Product of Cytec Industries Inc.
(2) Standard Methods of Testing available upon request.
(3) Theoretical determination based on the undiluted oligomer.
(4) UV cured 125 µ thick films

VISCOSITY REDUCTION

Graph I shows the viscosity reduction of EBECRYL 8309 with dipropylene glycol diacrylate (DPGDA)(1), 1,6-hexanediol diacrylate (HDODA)(1), and tripropylene glycol diacrylate (TRPGDA)(1). Although viscosity reductions can be achieved with non-reactive solvents, reactive diluents are preferred because they are essentially 100% converted during UV exposure to form an integral part of the coating, thus avoiding solvent emissions. The specific reactive diluent used will influence performance properties such as flexibility and adhesion.

Graph II illustrates the change in viscosity of EBECRYL 8309 with increasing temperature.

Graph II
EBECRYL 8309
Viscosity vs. Temperature



STORAGE AND HANDLING

Before using EBECRYL 8309, consult the **Material Safety Data Sheet** for additional information on hazards, handling procedures, and recommended protective equipment.

The maximum recommended storage temperature for EBECRYL 8309 is 40°C (104°F). 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.

PRECAUTIONS

Avoid contact with eyes, skin and clothing. Direct contact with this material may cause moderate eye and skin irritation. Repeated or prolonged dermal contact may cause allergic skin reactions. Wash thoroughly after handling. Use with adequate ventilation. Keep container closed.

Please refer to the Cytec **Guide to Safety, Health and Handling of Acrylate Oligomers and Monomers** for additional information on the safe handling of acrylates.

(1) Product of Cytec Industries Inc.

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