EBECRYL® 8501

Technical Datasheet

LOW ENERGY CURE RESIN FOR AUTOMOTIVE REFINISH AND METAL

INTRODUCTION

EBECRYL® 8501 is an aliphatic urethane acrylate designed for use in automotive refinish and general metal applications. Films of EBECRYL® 8501 exhibit a unique blend of flexibility and toughness coupled with good corrosion resistance. EBECRYL® 8501 contains isobornyl acrylate (IBOA) as a reactive diluent.

PERFORMANCE HIGHLIGHTS

EBECRYL® 8501 is characterized by:

- Excellent cure response under low light intensity conditions
- Good wetting of inert and reactive fillers
- 1K package configuration with 2K performance properties for automotive refinish putties
- Reduce sanding time compared to 2K automotive refinish putties
- Deep dent repair
- Easily sculptured to car body shape

Cured products containing EBECRYL® 8501 are characterized by the following performance properties:

- Excellent adhesion to metal, metallic, and various automotive substrates
- Good flexibility and toughness
- Low shrinkage upon cure

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

EBECRYL® 8501 is recommended for use in:

- Low energy cure
- Automotive end of line spot repair
- Automotive refinish
- General metal
- Metallized plastics
- Flexible filled coatings
- Thin film solar cell

USAGE

EBECRYL® 8501 will typically constitute between 40 and 60% of the final UVA curable body putty.

SPECIFICATIONS

Appearance	Clear to clouded liquid
Color, Gardner	max. 2
Viscosity, 25°C, mPa.s	30000 - 43000

TYPICAL PHYSICAL PROPERTIES

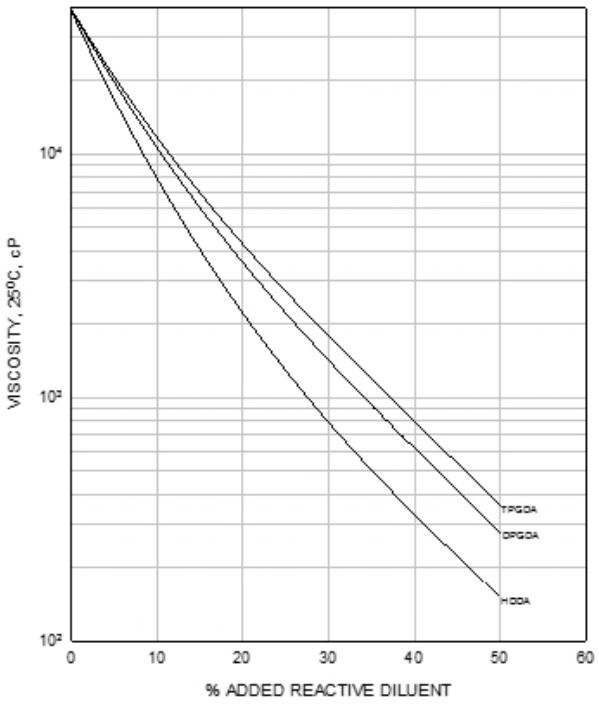
Density, g/cm³ at 25°C	1.10
Functionality, theoretical	3.0
Oligomer, % by weight	85

TYPICAL CURED PROPERTIES

Tensile, psi (MPa)	4200 (29)
Elongation at break, %	28
Toughness, psi (MPa)	1000 (6.9)
Young's modulus, psi (MPa)	120000 (828)

GRAPH I

EBECRYL® 8501 - VISCOSITY REDUCTION WITH REACTIVE DILUENTS



VISCOSITY REDUCTION

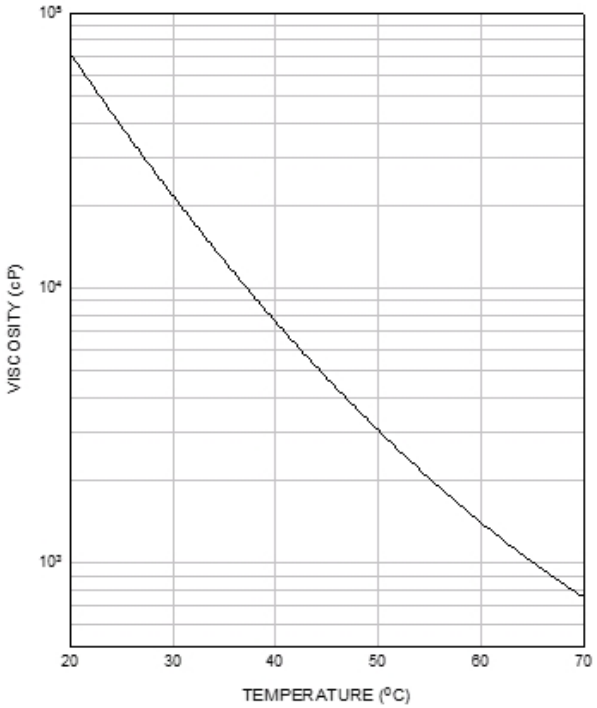
Graph I shows the viscosity reduction of EBECRYL® 8501 with dipropylene glycol diacrylate (DPGDA)[(1)], 1,6-hexanediol diacrylate (HDDA)[(1)] and tripropylene glycol diacrylate (TPGDA)[(1)]. Although viscosity reductions can be achieved with non-reactive solvents, reactive diluents are preferred because 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.

[(1)] product of allnex

Graph II illustrates the change in viscosity of EBECRYL® 8501 with increasing temperature.

GRAPH II

EBECRYL® 8501 - VISCOSITY VS. TEMPERATURE



PRECAUTIONS

Before using EBECRYL® 8501, 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® 8501.