EBECRYL® 8296

Technical Datasheet

ALIPHATIC URETHANE ACRYLATE FOR HAPTIC COATINGS

INTRODUCTION

EBECRYL® 8296 is an aliphatic urethane acrylate designed for use in applications requiring haptic properties (e.g. “soft touch”). Films of EBECRYL® 8296 cured via exposure to ultraviolet light (UV) or electron beam (EB) are soft, flexible, and resistant to yellowing coupled with high surface tack. Note that EBECRYL® 8296 typically develops a semi-crystalline aspect upon storage. For additional information, please refer to the Storage and Handling section.

PERFORMANCE HIGHLIGHTS

EBECRYL® 8296 is characterized by:

- Light color
- Semi-crystalline state

Cured products containing EBECRYL® 8296 are characterized by the following performance properties:

- Haptic properties
- Soft , “silky” feel to the touch
- Flexible
- Exterior durability
- Non-yellowing
- Excellent adhesion to difficult substrates, particularly vinyl.

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® 8296 is recommended for use in coatings requiring soft touch/haptic property:

- In-mold decoration
- Coatings for plastics
- Automotive coatings
- Screen Inks
- Flexographic inks
- Exterior durable coatings

VISCOSITY REDUCTION

EBECRYL® 8296 can be formulated with reactive dilutes such as 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 I illustrates the change in viscosity of EBECRYL® 8296 with increasing temperature.

SPECIFICATIONS

Appearance	Viscous liquid or white solid
Color, Apha	max. 100
NCO, %	max. 0.1
Viscosity, 60°C, mPa.s	1600 - 3200

TYPICAL PHYSICAL PROPERTIES

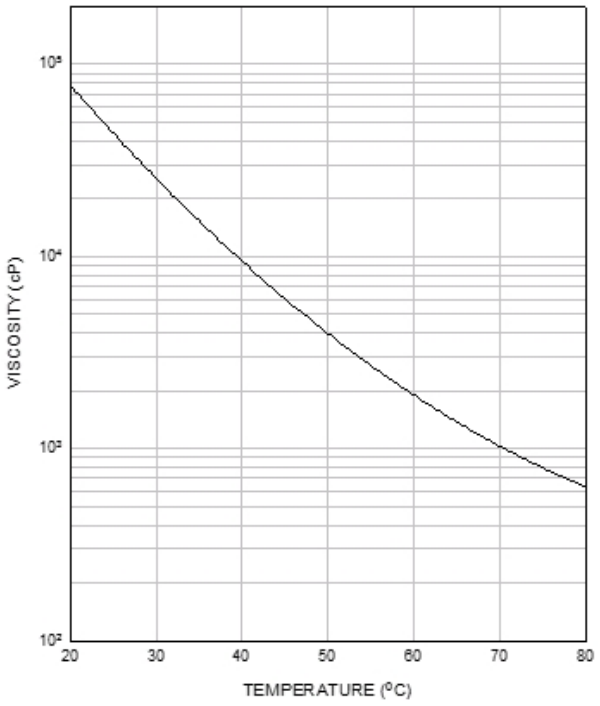
Density, g/cm³ at 25°C	1.10
Functionality, theoretical	3.0
Melting point, °C	53
Oligomer, % by weight	100

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	300 (2.1)
Elongation at break, %	18
Young’s modulus, psi (MPa)	2000 (14)
Glass transition temperature, °C	-1

GRAPH I

EBECRYL® 8296 - VISCOSITY VS. TEMPERATURE



PRECAUTIONS

Before using EBECRYL® 8296, 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® 8296.