

ALIPHATIC URETHANE TRIACRYLATE

**INTRODUCTION**

EBECRYL® 264 is an aliphatic urethane triacrylate diluted 15% by weight with the reactive diluent 1,6-hexanediol diacrylate (HDDA). Films of EBECRYL® 264 cured by ultraviolet light (UV) or electron beam (EB) exhibit good flexibility, abrasion resistance, and are resistant to yellowing.

**PERFORMANCE HIGHLIGHTS**

EBECRYL® 264 is characterized by:

- Light color
- Low odor
- Fast cure response

UV/EB cured products containing EBECRYL® 264 are characterized by the following performance properties:

- Good flexibility and toughness
- Excellent abrasion and stain resistance
- Non-yellowing

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 264 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 screen printing. EBECRYL® 264 is recommended for use in:

- Coatings for wood flooring
- Plastic coatings
- Overprint varnishes
- Screen inks
- Light stable coatings

**SPECIFICATIONS**

Color, Gardner	max. 2
Appearance	Clear liquid
Viscosity, 25°C, mPa.s	37500 - 52500

**TYPICAL PHYSICAL PROPERTIES**

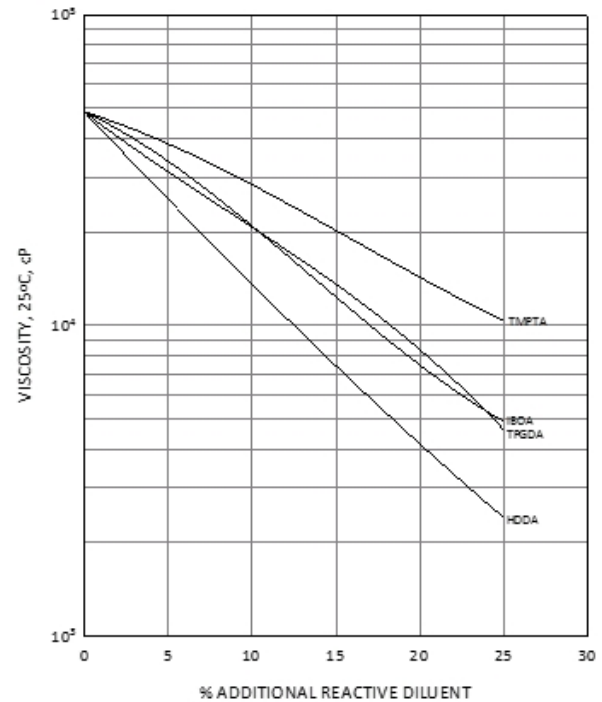
Density, g/cm <sup>3</sup> at 25°C	1.12
Functionality, theoretical	3
Oligomer, % by weight	85
HDDA, % by weight	15

**TYPICAL CURED PROPERTIES**

Tensile strength, psi (MPa)	4200 (29)
Elongation at break, %	37
Glass transition temperature, °C	42

**GRAPH I**

EBECRYL® 264 - VISCOSITY REDUCTION WITH REACTIVE DILUENTS

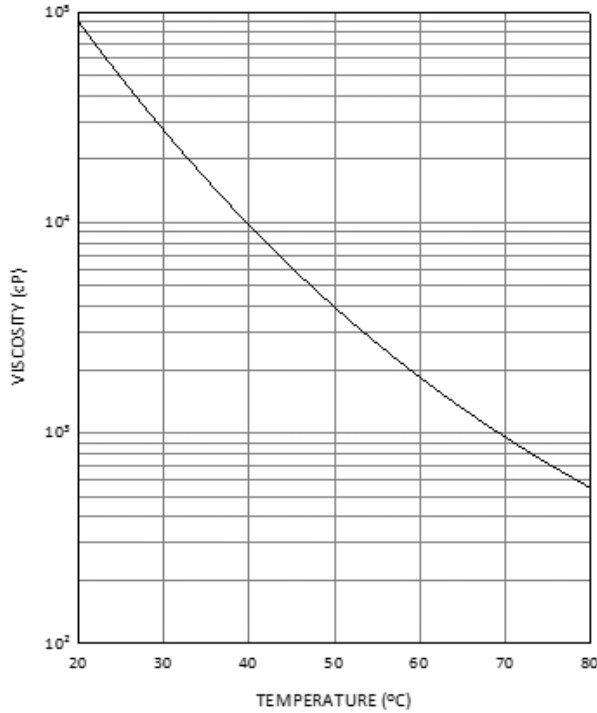


**VISCOSITY REDUCTION**

Graph I shows the viscosity reduction of EBECRYL® 264 with 1,6-hexanediol diacrylate (HDDA), isobornyl acrylate (IBOA)(1), trimethylolpropane triacrylate (TMPTA)(1), and tripropylene glycol diacrylate (TPGDA)(1). Although viscosity reduction can be achieved with non-reactive solvents, reactive diluents are preferred because they are essentially 100 percent converted during UV/EB exposure to form a part of the coating or ink, thus reducing solvent emissions. The specific reactive diluents used will influence performance properties such as hardness and flexibility. Graph II illustrates the change in viscosity of EBECRYL® 264 with increasing temperature.

**GRAPH II**

EBECRYL® 264 - VISCOSITY VS. TEMPERATURE



**PRECAUTIONS**

Before using EBECRYL® 264, 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® 264.