

DILUTED ACIDIC POLYESTER RESIN

INTRODUCTION

EBECRYL® 525 is an acid-modified polyester diluted 40% by weight with the reactive diluent tripropylene glycol diacrylate (TPGDA). It exhibits low color and moderate acid value. EBECRYL® 525 is used as the primary or modifying oligomer in ultraviolet light (UV) or electron beam (EB) curable formulations to increase adhesion to a variety of substrates including paper, plastics and metal. It is particularly useful in UV/EB laminating adhesives.

PERFORMANCE HIGHLIGHTS

EBECRYL® 525 is characterized by:

- Low color
- Acid functionality

UV cured products containing EBECRYL® 525 are characterized by the following performance properties:

- Good adhesion to paper, plastic and metals
- Flexibility

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® 525 may be applied via direct or reverse roll, offset gravure, metering rod, slot die, knife over roll, air knife, curtain and immersion coating methods, as well as screen printing. EBECRYL® 525 is recommended for use in:

- Laminating adhesives, particularly between paper/aluminum, paper/LDPE, paper/polypropylene and aluminum/LDPE.
- Primer coatings on metal
- Metallization receptive coatings on plastics
- Improving intercoat adhesion

SPECIFICATIONS

Acid value, mg KOH/g	20 - 30
Appearance	Clear liquid
Color, Apha	max. 200
Viscosity at 25°C, mPa.s	35000 - 45000

TYPICAL PHYSICAL PROPERTIES

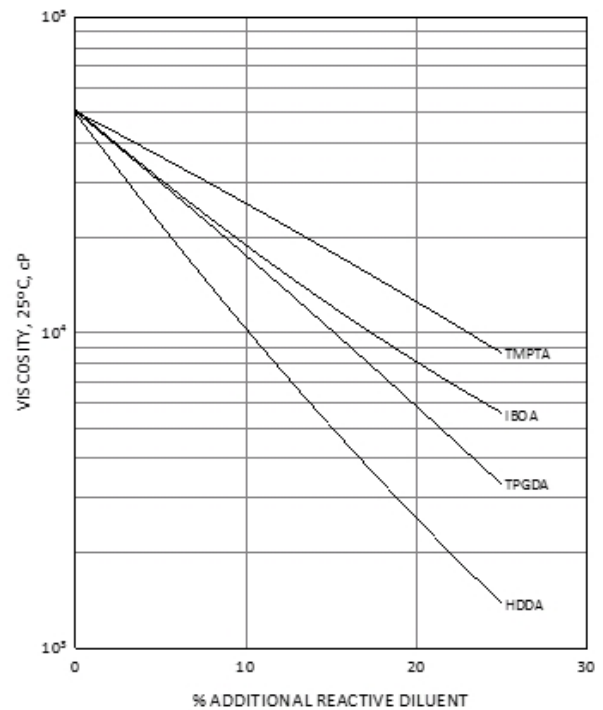
Density, g/cm ³ at 25°C	1.21
Oligomer, % by weight	60
TPGDA, % by weight	40

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	1300 (9.0)
Elongation at break, %	59

GRAPH I

EBECRYL® 525 - VISCOSITY REDUCTION WITH REACTIVE DILUENTS



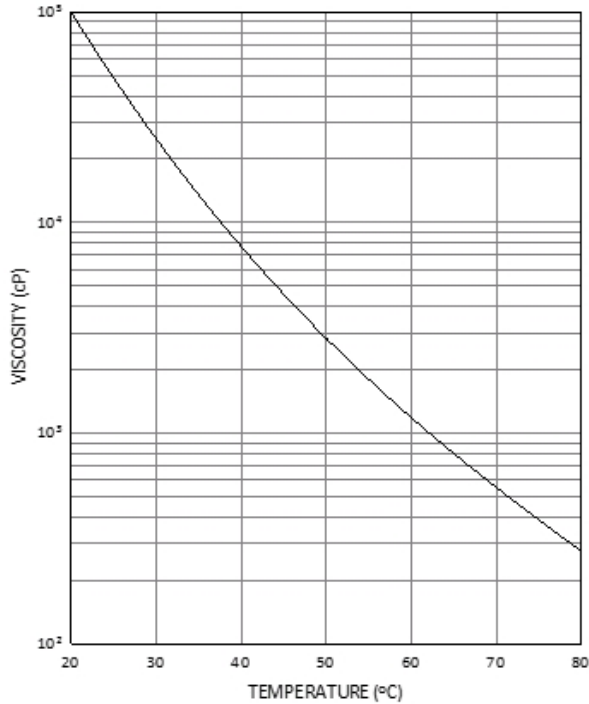
VISCOSITY REDUCTIONS

Graph I shows the viscosity reduction of EBECRYL® 525 with 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, 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.
⁽¹⁾ product of allnex

Graph II illustrates the change in viscosity of EBECRYL® 525 with increasing temperature.

GRAPH II

EBECRYL® 525 - VISCOSITY VS. TEMPERATURE



PRECAUTIONS

Before using EBECRYL® 525, 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® 525.