

# EBECRYL™ 1290N

## Technical Data Sheet

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### Urethane acrylate oligomer

#### INTRODUCTION

EBECRYL™ 1290N is a hexafunctional aliphatic urethane acrylate oligomer which provides very fast cure response when exposed to ultraviolet light (UV) or electron beam (EB). Cured films of EBECRYL™ 1290N exhibit high hardness and solvent resistance.

#### PERFORMANCE HIGHLIGHTS

EBECRYL™ 1290N is characterized by :

- Light colour
- Low viscosity
- Excellent cure response

UV/EB cured products based on EBECRYL™ 1290N are characterized by the following performance properties :

- Good surface hardness and excellent scratch resistance
- Good chemical resistance
- Excellent abrasion resistance

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

#### SUGGESTED APPLICATIONS

Formulated UV/EB curable products containing EBECRYL™ 1290N may be applied by lithographic, screen, gravure, direct or reverse roll, curtain coating and spray plastic coating methods.

EBECRYL™ 1290N is recommended for use in :

- Coatings for paper foils
- Scratch resistant coatings on plastic and wood
- Improving cure speed and solvent resistance

#### TYPICAL VALUES

Dynamic viscosity at 60 °C, mPa.s ~ 1100  
Colour, Gardner max. 1

#### PHYSICAL PROPERTIES

Density, g/cm<sup>3</sup> 1.18  
Molecular weight, theoretical ± 1000  
Functionality, theoretical 6  
Polymer solids, % by weight 100

#### TYPICAL CURED PROPERTIES

Tensile strength, MPa<sup>(1)</sup> n.av.  
Tensile elongation, %<sup>(1)</sup> n.av.  
Young Modulus, MPa<sup>(1)</sup> n.av.  
Glass transition temperature, °C n.av.

#### VISCOSITY REDUCTION

EBECRYL™ 1290N can be diluted with reactive monomers such as EBECRYL™ 40<sup>(2)</sup>, trimethylolpropane triacrylate (TMPTA)<sup>(2)</sup>, tripropyleneglycol diacrylate (TPGDA)<sup>(2)</sup> and 1,6 hexanediol diacrylate (HDDA)<sup>(2)</sup>. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

<sup>(2)</sup> EBECRYL™ 40, TMPTA, TPGDA and HDDA are produced by Cytec Surface Specialties.

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### **STORAGE AND HANDLING**

Care should be taken not to expose radiation curable products to temperatures exceeding 40 °C for prolonged periods or to direct sunlight. This might cause uncontrollable polymerization of the product with generation of heat.

Storage and handling should be in stainless steel, amber glass, amber polyethylene or baked phenolic lined containers. Do not store this material under an oxygen free atmosphere.

Use dry air to displace material removed from the container. This material should not be stored for more than 2 year.

### **PRECAUTIONS**

The following is a summary of the precautions to be taken when handling this product. Please refer to the Safety Data Sheet for further details.

The toxicological properties of this material have not been fully determined. Products of this type can be expected to be eye and skin irritant and have the potential to cause sensitization or other allergic responses. Appropriate precautions should be taken to avoid eye and skin contact and to avoid inhalation of the aerosols or vapours. Consult the relevant Safety Data Sheet for appropriate handling procedures and protective equipment prior to using this or any other material referred to in this bulletin.

See Safety Data Sheet for emergency and first aid procedures.

### **STATUTORY LABELLING**

For Statutory Labelling information, please refer to Safety Data Sheet.

October 2008 - Supersedes previous versions

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