

TIN-FREE URETHANE ACRYLATE OLIGOMER

INTRODUCTION

EBECRYL® 8209 is a Sn-free aliphatic urethane acrylate oligomer which provides extremely fast cure response when exposed to ultraviolet (UV) light or electron beam (EB). Cured films of EBECRYL® 8209 exhibit high hardness, abrasion and solvent resistance.

PERFORMANCE DATA

EBECRYL® 8209 is characterized by:

- light colour
- low viscosity
- excellent cure response

UV/EB cured formulations based on EBECRYL® 8209 are characterized by the following performance properties:

- good adhesion
- scratch resistance
- good lithographic properties

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

SUGGESTED APPLICATIONS

UV/EB curable formulations containing EBECRYL® 8209 may be applied by lithographic, screen, gravure, direct or reverse roll, and curtain coating methods.

EBECRYL® 8209 is recommended for use in:

- plastic coatings
- lithographic applications
- coatings requiring good adhesion and/or scratch
- resistance

TYPICAL VALUES

Appearance	clear liquid
Höppler viscosity at 25°C, mPa.s	4000
Colour, Gardner	max. 2
Hydroxyl value, mg KOH/g	80 - 105

PHYSICAL PROPERTIES

Density, g/cm ³	1.12
Molecular weight, theoretical (avg)	ca. 600
Functionality, theoretical(average)	3.9
Polymer solids, % by weight	100

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	2700 (19)
Elongation at break, %	1
Young's modulus, psi (MPa)	348000 (2400)
Glass transition temperature, °C	145

VISCOSITY REDUCTION

EBECRYL® 8209 can be diluted with reactive monomers such as oligotriacrylate (OTA 480)⁽¹⁾, 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, tripropyleneglycol diacrylate (TPGDA)⁽¹⁾ and trimethylolpropane triacrylate (TMPTA)⁽¹⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

⁽¹⁾ product of allnex.

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 years.

PRECAUTION

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 LABELING

Please refer to Safety Data Sheet.