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ALIPHATIC URETHANE ACRYLATE

INTRODUCTION

EBECRYL® 246/20HEMA is a difunctional aliphatic urethane acrylate that does not contain intentionally added organic tin compounds, heavy metals or quinones. The resin is diluted in 20 parts HEMA. (Please note that quinones are present in many raw materials, so the overall quinone content is reduced, but not zero). Films of EBECRYL® 246/20HEMA cured by electron beam (EB) or ultraviolet light (UV) exhibit excellent abrasion resistance, toughness and flexibility and are resistant to yellowing.

PERFORMANCE HIGHLIGHTS

EBECRYL® 246/20HEMA is characterized by:

- No intentionally added tin, heavy metals or quinones
- Light colour
- Low odour

UV/EB cured products, based on EBECRYL® 246/20HEMA, are characterized by the following performance properties:

- Excellent flexibility
- Excellent non-yellowing
- High scuff and abrasion resistance
- Good exterior durability

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 Formulated UV/EB curable products containing Ebecryl®246/20HEMA may be applied by lithographic, screen, gravure, direct or reverse roll, curtain coating and brush coating methods.

EBECRYL® 246/20HEMA is recommended for use in:

- Clear coatings for paper
- Clear coatings on flexible and semi-rigid plastics
- Silk screen inks
- Solder resists as a flexibilizer
- Wood top coats

TYPICAL VALUES

Brookfield viscosity at 25°C, mPa.s	ca. 30000
Colour, Gardner	max. 1

PHYSICAL PROPERTIES

Density, g/cm ³	1.09
Molecular weight, theoretical	1600
Functionality, theoretical	2
Polymer solids, % by weight	80

VISCOSITY REDUCTION

EBECRYL® 246/20HEMA can be diluted with reactive monomers such as 1,6-hexanediol diacrylate (HDDA)⁽¹⁾, tripropyleneglycol diacrylate (TPGDA)⁽¹⁾, trimethylolpropane triacrylate (TMPTA)⁽¹⁾, oligotriacrylate (OTA 480)⁽¹⁾, tetraethyleneglycol diacrylate (TTEGDA)⁽¹⁾ and octyl/decyl acrylate(ODA)⁽¹⁾. The specific reactive diluent(s) used will influence performance properties such as hardness and flexibility.

⁽¹⁾ HDDA, TPGDA, TMPTA, OTA 480, TTEGDA and ODA are produced by 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.

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 LABELING

Please refer to Safety Data Sheet.