

ALIPHATIC DIFUNCTIONAL ACRYLATE

INTRODUCTION

EBECRYL® 130 is a low viscosity aliphatic di-acrylate which polymerizes when cured by UV (ultra violet) light or EB (Electron Beam). Ebecryl®130 is particularly useful for increasing Tg. EBECRYL® 130 can be used as a pigment grinding resin for UV ink-jet inks.

PERFORMANCE HIGHLIGHTS

Producing low viscosity pigment paste providing ease of handling and ensuring stability while letting down.

EBECRYL® 130 is characterized by :

- Low colour
- Low viscosity
- High Tg
- Low shrinkage
- Reduced water permeability when cured

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 photo initiators.

SUGGESTED APPLICATIONS

Formulated UV/EB curable formulations containing EBECRYL® 130 may be applied by lithographic, screen, gravure, direct or reverse roll and curtain coating methods. EBECRYL® 130 increases the Tg of coatings.

EBECRYL® 130 can be used as a pigment grinding vehicle for dispersing all process colour pigments in a bead mill. When this pigment paste is let down in a suitable letdown system, the final UV curable inks have a viscosity of around 20 mPa.s at 25°C and good pigment dispersion stability. These inks are used in Inkjet applications.

It can also be used in paper and plastic coatings and in temperature resistant coatings.

TYPICAL VALUE

Höppler viscosity at 25°C, mPa.s	160
Colour, Gardner	5
Density at 21.5°C, g/cm ³	1.09
Molecular weight, theoretical	300
Functionality, theoretical	2
Percentage solids, %	100
Shrinkage, %	8.0

TYPICAL CURED PROPERTIES

Tensile strength, psi (MPa)	7250 (50)
Elongation at break, %	2
Young's modulus, psi (MPa)	418000 (2880)
Glass transition temperature, °C	157

SUGGESTED FORMULATION

Bead mill grinding of inkjet pastes.

Ingredients	Parts by weight
Pigment	15 - 25
EBECRYL® 130	75 - 85
Stabiliser	0.5 - 1
Additives	0.2 - 5

The ratio of pigment to EBECRYL® 130 should be adjusted to give the maximum shear possible without increasing the temperature of the pigment paste above 60°C during pigment grinding.

PRECAUTION

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.

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.

STATUTORY LABELING

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