EBECRYL® 452

Technical Datasheet

POLYESTER ACRYLATE OLIGOMER

INTRODUCTION

EBECRYL® 452 is a low viscosity polyester acrylate oligomer. Because of the chemical structure of the backbone of this molecule it gives exceptional pigment wetting properties. This combined with the low viscosity of this material (typically 600 mPa.s at 25°C) makes it ideal as a pigment grinding resin. EBECRYL® 452 also gives a fast cure response when formulated with other oligomers and cured via ultraviolet light (UV) or electron beam (EB). EBECRYL® 452 is used for the preparation of high pigment loading pigment pastes produced using a triple roll mill or bead mill. EBECRYL® 452 can be used for grinding all process colours and spot colours.

PERFORMANCE HIGHLIGHTS

EBECRYL® 452 is characterized by :

- Low viscosity
- Excellent pigment wetting properties
- Good cure response

The ability to produce high pigment loading pigment pastes allows the ink formulator more latitude in formulating as less pigment paste is required to achieve a given optical density.

Typical pigment paste formulations using a triple roll mill

	Yellow	Magenta	Cyan
EBECRYL® 452	52.8	49.5	47.3
ADDITOL® S 120	1	1	1
Solsperse 22000	1.7		
Solsperse 5000			1.1
Solsperse 39000	4.5		
Solsperse 24000		4.5	5.6
Pigment DGR	40		
Sunbrite Red 57:1		45	
Pigment GLO			45

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

SUGGESTED APPLICATIONS

High loading pigment paste formulations prepared using EBECRYL® 452 may be used in the production of UV/EB curable inks intended for use in flexography, lithography, gravure or potentially UV ink-jet.

TYPICAL VALUES

Cone and plate viscosity at 25°C, mPa.s	± 600

PHYSICAL PROPERTIES

Density, g/cm^3	1.15
Functionality, theoretical	4

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 may 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. 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

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

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