CYTEC

EBECRYL® 8296

UV Curable Resin
Enabling Pleasant Tactile Sensations

Product Launch 12-2009

The first UV curable Aliphatic Urethane Acrylate designed to enhance the properties of various plastic substrates with soft feel and protective matte coating. EBECRYL 8296 is suitable for diverse applications such as consumer goods, electronics, films, in-mold decoration, etc.

EBECRYL 8296

UV curable technology for haptic coatings

Enabling Pleasant Tactile Sensations

Physical Properties - EBECRYL 8296

Appearance	white, solid product
Höppler viscosity (60 °C)	2400 mPa.s
Color (APHA)	50
Melting Point	53 °C
Functionality (theoretical)	3
Molecular Weight (theoretical)	± 2400
Polymer solids (% by weight)	100

Key Benefits - EBECRYL 8296

- Light color
- Resin not prone to yellowing
- Very high flexibility
- Good adhesion on various plastic substrates
- Compatible with various polyurethane and acrylic beads
- Compatible with various additives and fillers
- Durability

Solubility and Application Methods

- EBECRYL 8296 can be diluted with various solvents
  - Ethylacetate
  - Butylacetate
  - Methylethylketone
  - Isopropanol

- Application methods: spray, roller coater, curtain coating.

Starting formulation for soft feel on PC

- EBECRYL 8296 Aliphatic Urethane Acrylate
- EBECRYL 113 Monofunctional diluting acrylate
- ADDITOL® HDMAP photoinitiator
- Commercially available elastomer beads with micrometric particle size

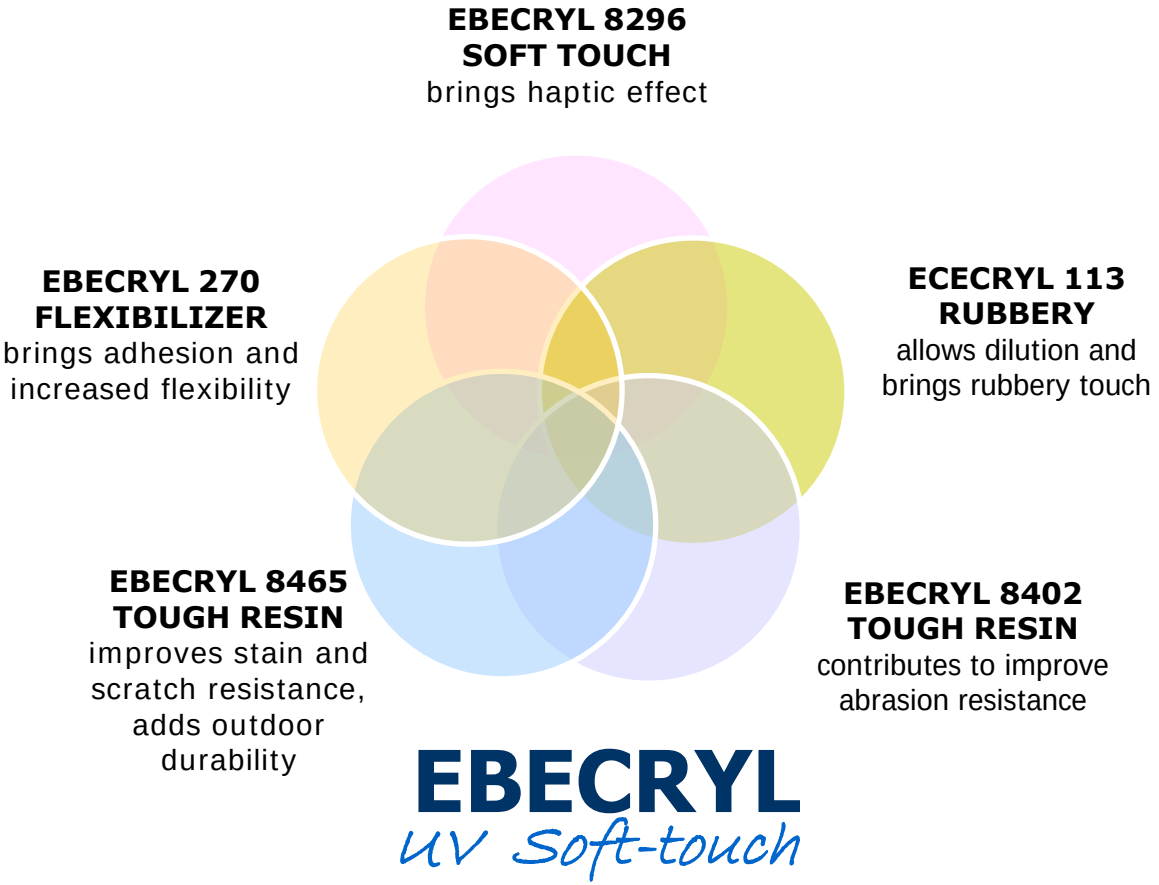
STARTING FORMULATION	
EBECRYL® 8296	70
EBECRYL® 113	35
ADDITOL® HDMAP	5
Rubber particles	5

- 100 microns applied on polycarbonate substrate
- UV curing: 4 passes at 5 m/min., 80 W/cm Hg lamp

EBECRYL Haptic Portfolio

Together with EBECRYL 8296 for haptic coatings, Cytec proposes a portfolio of selected UV curable resins to help the formulator reaching the best compromise between tactile feeling and surface protection.

The proposed portfolio carries a wide combination of properties opening up multiple coating design possibilities.



A proper combination of EBECRYL 8296, other EBECRYL resins and additives enables the development of tactile coatings.

EBECRYL Haptic Portfolio

- **Resin for Haptic Coatings: EBECRYL 8296**
  - Trifunctional aliphatic urethane acrylate with good adhesion on various plastic substrates
  - Compatible with elastomeric beads and surface modified silica additives for haptic coatings
  - Base resin for haptic coating formulations to be used in combination with additives

EBECRYL Haptic Portfolio

❖ Modifying Oligomer: EBECRYL 8465

- Trifunctional aliphatic urethane acrylate with high flexibility and good adhesion
- Recommended in haptic coatings to optimize surface properties as scratch resistance
- The resin can contribute to improve outdoor durability

❖ Diluting Monomer: EBECRYL 113

- Mono-functional epoxy acrylate recommended in soft touch formulations to improve the tactile feeling and reduce viscosity
- Provides flexibility and very good adhesion on plastic substrates

EBECRYL Haptic Portfolio

❖ Modifying Oligomer: EBECRYL 8402

- Difunctional aliphatic urethane acrylate with excellent adhesion and flexibility
- Recommended in haptic coatings to improve the matrix flexibility
- The product can contribute to improve abrasion resistance and outdoor durability of the coating

❖ Flexibilizer Resin: EBECRYL 270

- Difunctional aliphatic urethane acrylate
- Recommended to increase adhesion on difficult substrates and to improve flexibility

EBECRYL Haptic Portfolio
Physical Properties

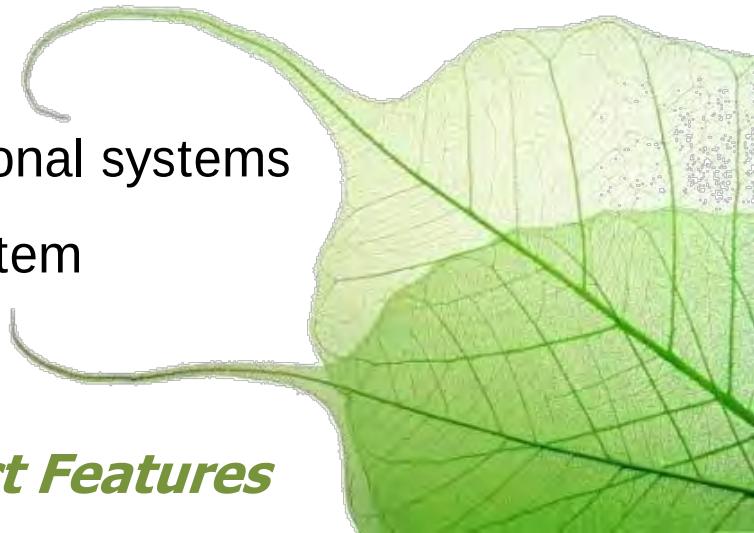
Resin	Viscosity (mPa.s)	Tg (degC)	Elongation (%)	Young's Modulus (MPa)	Color (1)	MW
EBECRYL 8296 (2)	2400(60°C)	-1	18	13.2	50A	2400
EBECRYL 113 (3)	120 (25°C)	6	270	0.3	3G	n.a.
EBECRYL 8465 (2)	2100 (60°C)	36	50	113	<2G	1400
EBECRYL 8402 (2)	12500 (25°C)	45	55	334	2G	1000
EBECRYL 270 (2)	3000 (25°C)	38	62	27	2G	1500

(1) A = APHA, G = Gardner
(2) EB cured
(3) UV cured

Sustainable Benefits

EBECRYL 8296 encompasses several sustainability features and it is designed to have reduced environmental impact.

- 100% solvent-free solid material
- No EPA-regulated Hazardous Air Pollutant
- No VOC
- No Xi-label
- No Toxic label
- Energy curable, lower energy requirement vs conventional systems
- Reduced fire hazard vs conventional solvent based system



Environmental Product Features

Conclusions

- Cytec introduces to the market EBECRYL 8296, the first Aliphatic Urethane Acrylate specifically designed to formulate haptic coatings
- EBECRYL 8296 has good adhesion properties on plastic substrates and is compatible with several commercial additives for haptic coatings
- EBECRYL 8296 is suitable for various application in consumer goods, electronics, films and in-mold decoration
- Cytec proposes a selection of EBECRYL resins that can be considered by the formulation to achieve the best compromise between tactile feeling and surface protection.

For more information on EBECRYL 8296 please contact:

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