

CYTEC



RADCURE™ Energy Curable Resins

**PRODUCT GUIDE –
Coatings and Inks**

Americas

About Us

From defining more efficient processes for mining customers to developing new additives for polymer-based alternatives to wood and metals, the product lines of Cytec Specialty Chemicals are unified in their dedication to customer-driven innovation.

Working closely with our customers, we develop revolutionary technologies that enable them to improve performance and productivity, enter new markets, and refine new applications. How to improve mine profitability or coatings efficiency in the face of important environmental concerns? How to develop polymers that really stand up to UV light? How to use phosphines to create better, safer biocides and fumigants for agriculture? Our technology and sales teams work on-site with customers every day to address today's business challenges and troubleshoot tomorrow's.

The applications are diverse, but the commitment is uniform: finding better solutions for customers through continual research, ongoing collaboration and a passion for innovation.

An Expansive Portfolio

Cytec Specialty Chemicals is a complete solution provider for customers requiring high-value surface technologies in industries that include industrial coatings, automotive, architectural, wood and paper, graphics, adhesives and opto-electronics.

We offer our customers advanced and diverse products and technologies for surfaces with an emphasis on environmentally friendly products such as UV/EB curable resins and additives, powder coating resins and additives, as well as waterborne and solventborne liquid coatings resins and additives. We are committed to working with our customers to develop environmentally advanced solutions and we are dedicated to open communication concerning the safe handling, distribution, use and disposal of the products we make.

A Focus on Customer Satisfaction

Cytec Specialty Chemicals operates a globally integrated set of order fulfillment IT systems and processes. All Spec Chem personnel in the order fulfillment processes are dedicated to delivering customer satisfaction through reliable and cost-effective supply of product to our customers. Cytec Spec Chem has specialized personnel in Customer Service, Procurement, Manufacturing, Planning and Logistics to achieve this goal. In addition to timely and accurate order fulfillment, there is an equally important focus on maintaining safety and protecting the environment at all steps in the process, from the procurement of raw materials to the delivery of finished goods to the customer's door.

Dedication to Operational Excellence

Cytec's Spec Chem Manufacturing Organization operates globally to provide superior service to our customers in all regions. Our vision of operational excellence brings value to our customers through ongoing, continuous improvement initiatives, including Lean Manufacturing, Six Sigma Principles, and Best Practice Engineering. Our value proposition is driven by excellence in our Safety, Environmental, Quality Systems and Employee Development Programs. We are structured by business technology, which enables our sites to work transparently with R&D, Customer Service and the Businesses, to share best practices across common processes. We also are able to gain leverage from overall global manufacturing synergies to most efficiently meet customer needs.

Key Product Lines

- Liquid Coating Resins and Additives
- Mining Chemicals
- Phosphine and Phosphorus Specialties
- Polymer Additives
- Powder Coating Resins and Additives
- RADCURE* UV/EB
- Specialty Additives

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II Product Families

UCECOAT® Waterborne UV Resins	These waterborne resins have low viscosities without the use of diluting acrylates and good physical properties after crosslinking. Several are tack-free after water evaporation.
EBECRYL® 5000 Series Bioligomers	The 5000 series bioligomers are partially based on renewable resources, and allow for the formulation of inks that contain renewable resources without the loss of printability, pigment wetting, or performance properties.
EBECRYL LEO Resins	LEO (Low Extractables and Odor) resins are specifically formulated to provide a significant reduction in odor release and potential migration for producing inks and coatings for food and pharmaceutical packaging.
EBECRYL Urethane Acrylates	Urethane acrylates impart toughness and flexibility. Aliphatic types are non-yellowing and can provide outstanding exterior durability.
EBECRYL Polyester Acrylates & Diluted Polyesters	Polyester acrylates are used in a wide range of applications including flexographic and lithographic inks and coatings for paper and wood. Some specialty polyester oligomers provide good adhesion to various substrates.
EBECRYL Polymer/Diluent Blends	Polymeric resins in monomer can provide adhesion to difficult substrates with low shrinkage and better film formation.
EBECRYL Epoxy Acrylates	Epoxy acrylates are used in formulations requiring superior chemical resistance, hardness and fast cure.
UVACURE® Cationic Curing Products	Cycloaliphatic epoxide resins undergoes rapid cationic polymerization and offer reduced shrinkage and improved adhesion.
Diluting Acrylates	Mono, di, tri and higher functional acrylate diluents reduce the viscosity of oligomers and can contribute important physical properties to cured formulations.
ADDITOL® & EBECRYL Additives	Several additives are designed to assist with adhesion or enhance the wetting, flow or slip characteristics of coatings. All are co-polymerizable. Other additives increase formulation stability.
ADDITOL & EBECRYL Photoinitiators	Photoinitiators absorb UV light and start the polymerization. Product types are alpha cleavage, hydrogen abstraction, amine synergists and mixtures.

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ADDITOL BP	28	EBECRYL 3720-TP40	18	EBECRYL 871	12
ADDITOL CPK	27	EBECRYL 3730-TP20	18	EBECRYL 8800	9
ADDITOL DX	26	EBECRYL 40	23	EBECRYL 8800-20R	10
ADDITOL HDMAP	27	EBECRYL 436	11	EBECRYL 8804	10
ADDITOL ITX	28	EBECRYL 438	11	EBECRYL 8807	10
ADDITOL LX	26	EBECRYL 450	11	EBECRYL 8808	10
ADDITOL S 120	25	EBECRYL 4827	10	EBECRYL 885	13
ADDITOL TPO	27	EBECRYL 4833	8	EBECRYL 887	13
DPGDA	21	EBECRYL 4849	10	EBECRYL 888	13
DPHA	22	EBECRYL 4858	2	EBECRYL 889	13
EBECRYL® * 1039	20	EBECRYL 4883	8	EBECRYL 891	13
EBECRYL 110	20	EBECRYL 524	11	EBECRYL 893	2
EBECRYL 113	20	EBECRYL 53	23	EBECRYL LEO 10501	6
EBECRYL 114	20	EBECRYL 5500	5	EBECRYL LEO 10502	6
EBECRYL 1290	7	EBECRYL 5601	5	EBECRYL LEO 10551	6
EBECRYL 130	21	EBECRYL 5610	5	EBECRYL LEO 10552	6
EBECRYL 140	23	EBECRYL 5801	5	EBECRYL LEO 10553	6
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EBECRYL 350	24	EBECRYL 83	11	UCECOAT 7578	3
EBECRYL 3500	16	EBECRYL 8301-R	8	UCECOAT 7655	3
EBECRYL 3600	16	EBECRYL 8309	8	UCECOAT 7674	3
EBECRYL 3700	16	EBECRYL 8311	8	UCECOAT 7689	3
EBECRYL 3701	16	EBECRYL 830	2	UCECOAT 7699	3
EBECRYL 3701-20T	17	EBECRYL 8402	8	UCECOAT 7710	2
EBECRYL 3702	17	EBECRYL 8405	9	UCECOAT 7733	2
EBECRYL 3703	17	EBECRYL 8411	9	UCECOAT 7890	2
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* ADDITOL® additives and photoinitiators
 * EBECRYL® energy curable resins
 * UCECOAT® waterborne UV resins
 * UVACURE® energy curable resins

2 | Featured Products

Featured Products		Typical Properties ⁽¹⁾						
Product	Description ◆ Key Features & Performance	Viscosity cP at (°C)	Functionality	Color, Gardner (Pt-Co)	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 893	Modified Polyester Acrylate ◆ Specifically developed for UV curable field applied floor coatings ◆ Provides resistance to yellowing upon cure and over its lifetime ◆ Low viscosity ◆ Fast cure ◆ Adhesion, hardness, and scratch resistance ◆ Good chemical and solvent resistance ◆ High gloss	600 (25)	3.5	3	1422	2.7	–	1.11
EBECRYL 4858	Aliphatic Urethane Acrylate ◆ Low intrinsic viscosity ◆ Abrasion, chemical & impact resistance ◆ Flexibility ◆ Toughness ◆ Outdoor durability	7000 (25)	2	3	5700	3.5	54	1.14
EBECRYL 8296	Aliphatic Urethane Acrylate for Haptic Coatings ◆ Soft, highly flexible coatings ◆ Compatible with various polyurethane and acrylic beads, additives and fillers ◆ Waxy solid @ 25°C	2500 (60)	3	(50)	275	18	-1	–
Product	Description ◆ Key Features & Performance	Appearance	Viscosity, cP at 25°C	Solid Content, %	pH	Particle size nm	MFET, °C	Density, g/ml at 25°C
UCECOAT 7710	Acrylated Polyurethane Dispersion ◆ High gloss ◆ Excellent distinctness of image (DOI) without polishing ◆ Good stain and solvent resistance ◆ High hardness & scratch resistance ◆ Non-physically drying before UV curing	Translucent bluish to white liquid	150	45	6.0- 7.5	–	–	–
UCECOAT 7733	Acrylated Polyurethane Dispersion ◆ Xi-free (non irritant) ◆ Low viscosity ◆ Excellent colloidal stability ◆ Outstanding hardness and scratch resistance ◆ Excellent stain and solvent resistance ◆ Non-physically drying before UV curing	Translucent to white liquid	<150	38	7.0- 8.5	<125	6	1.0
UCECOAT 7890	Acrylated Polyurethane Dispersion ◆ Specifically developed for UV curable field applied wood and VCT floor coatings ◆ Good foam control ◆ Excellent wetting of matting agents, pigments, substrates ◆ Floor coatings with uniform matting ◆ Physically drying before UV cure	Translucent to white liquid	<200	35	6.0- 8.5	<150	<0	1.05

⁽¹⁾ Not a specification * EBECRYL® energy curable acrylates * UCECOAT® waterborne UV resins

Waterborne UV Dispersions		Typical Properties ⁽¹⁾						
Product	Description ◆ Key Features & Performance	Appearance	Viscosity cP at 25°C	Solid Content, %	pH	Particle size, nm	MFFT, °C	Density, g/ml at 25°C
UCECOAT* 7571	Acrylated Polyurethane Dispersion ◆ Low viscosity ◆ Tack free after water evaporation ◆ Excellent adhesion ◆ Good stain & chemical resistance ◆ Balanced hardness and flexibility ◆ Optimized colloidal stability	Translucent to white liquid	<200	35	7.5	<100	<0	1.00
UCECOAT 7578	Acrylated Polyurethane Dispersion ◆ Low viscosity ◆ Tack free after water evaporation ◆ Excellent adhesion ◆ High flexibility ◆ Optimized colloidal stability	Translucent to white liquid	<200	38	7.0–8.5	<150	<7	1.06
UCECOAT 7655	Acrylated Polyurethane Dispersion ◆ Low viscosity ◆ Tack-free after water evaporation ◆ Superior hardness and scratch resistance ◆ Excellent stain & chemical resistance ◆ Excellent reactivity in clear and pigmented coatings ◆ Optimized colloidal stability	Translucent to white liquid	<200	35	7.0–8.5	<150	<0	1.02
UCECOAT 7674	Acrylated Polyurethane Dispersion ◆ Low viscosity ◆ Outstanding wetting of wood ◆ Excellent adhesion & appearance ◆ Excellent stain & chemical resistance ◆ Optimized colloidal stability	Translucent to white liquid	<200	35	7.0–8.5	<150	<0	1.05
UCECOAT 7689	Acrylated Polyurethane Dispersion ◆ Low viscosity ◆ Tack free after water evaporation ◆ Excellent exterior durability ◆ High flexibility ◆ Good chemical resistance	Translucent to white liquid	<200	35	7.0–8.5	<100	0	1.0
UCECOAT 7699	Acrylated Polyurethane Dispersion ◆ Low viscosity ◆ Tack-free after water evaporation ◆ Very high reactivity in clear and pigmented systems ◆ Excellent stability ◆ Good compatibility, easy to formulate	Translucent liquid	<200	35	7.0–8.5	<150	6	1.0

⁽¹⁾ Not a specification

* UCECOAT® waterborne UV resins

Waterborne UV Solutions		Typical Properties ⁽¹⁾			
Product	Description ◆ Key Features & Performance	Appearance	Viscosity, cP	Solid Content, %	Density, g/ml at 25°C
UCECOAT 6558	Aliphatic Urethane Acrylate Solution ◆ Moderate viscosity ◆ Good adhesion ◆ Excellent flexibility ◆ Resistance to yellowing ◆ Good aspect or appearance	Clear to clouded liquid	3700 (25°C)	50	1.09
UCECOAT 6569	Aliphatic Urethane Acrylate Solution ◆ High viscosity ◆ Light color ◆ Good adhesion and transparency ◆ Excellent flexibility ◆ Resistance to yellowing	Clear liquid	8000 (60°C)	95	1.10

⁽¹⁾ Not a specification

* UCECOAT® waterborne UV resins

5000 Series Bioligomers		Typical Properties ⁽¹⁾					
Product	Description ◆ Key Features & Performance	Functionality	Viscosity cP at 25°C	Appearance	Color, Gardner (Pt-Co)	Tack, g-m at 400 rpm	Density, g/ml at 25°C
EBECRYL 5500	Glycerol Derivative Triacrylate ◆ Partially based on renewable resources ◆ Reactive diluent ◆ Good viscosity reduction and reactivity	3	130	Clear liquid	(62)	–	1.07
EBECRYL 5601	Epoxidized Soya Oil Acrylate ◆ Partially based on renewable resources ◆ Good pigment wetting ◆ Good flow and leveling	4	26500	Clear liquid	7	6-8	1.03
EBECRYL 5610	Modified Epoxy Acrylate ◆ Partially based on renewable resources ◆ Good pigment wetting ◆ Good flow and leveling	2	2200	Hazy liquid	2	–	1.13
EBECRYL 5801	Polyester Triacrylate ◆ Partially based on renewable resources ◆ Excellent pigment wetting and color development ◆ Good printability	3	6000	Clear liquid	6	3-5	1.06
EBECRYL 5820	Polyester Tetra-acrylate ◆ Partially based on renewable resources ◆ Good pigment wetting ◆ Good color development ◆ Excellent printability	4	66100	Clear liquid	9	10-12	1.12
EBECRYL 5821	Polyester Pentaacrylate ◆ Partially based on renewable resources ◆ Good pigment wetting ◆ Good reactivity ◆ Excellent printability	5	27500	Clear liquid	9	5-7	1.07
EBECRYL 5822	Polyester Pentaacrylate ◆ Partially based on renewable resources ◆ Good color development with carbon black pigments ◆ Excellent printability	5	29200	Clear liquid	9	5-7	1.07

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

6 | EBECRYL® LEO Resins

LEO Resins		Typical Properties ⁽¹⁾						
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Acid Value (mg KOH/g)	Epoxy content (%)	Color, Gardner (Pt-Co)	Molecular weight (g/mol)	Density, g/ml at 25°C
EBECRYL LEO 10501	Trifunctional Diluting Acrylate ◆ High cure response ◆ Good flexibility	3	80 (25°C)	0.5	–	(200)	470	1.10
EBECRYL LEO 10502	Polymeric Tetrafunctional Acrylate ◆ High cure response ◆ Low viscosity ◆ Good flexibility ◆ High gloss	4	170 (25°C)	5	–	2	750	1.15
EBECRYL LEO 10551	Amine Modified Polyether Acrylate ◆ Very high cure response ◆ Low viscosity ◆ Good flexibility ◆ High gloss	2.5	75 (25°C)	–	–	2	500	1.09
EBECRYL LEO 10552	Amine Modified Polyether Acrylate ◆ Very high cure response ◆ Good flexibility ◆ High gloss	3.5	450 (25°C)	–	–	2	1000	1.12
EBECRYL LEO 10553	Amine Modified Polymeric Tetrafunctional Acrylate ◆ Partially based on renewable resources ◆ Good pigment wetting ◆ Good reactivity ◆ Excellent printability	3.4	220 (25°C)	–	–	2	780	1.12
EBECRYL LEO 10601	Modified Epoxy Acrylate ◆ Very high cure response ◆ Excellent solvent resistance ◆ High gloss ◆ Good pigment wetting	2	200,000 (25°C)	<1	<0.05	3	500	1.14
EBECRYL LEO 10801	Hexafunctional Polyester Acrylate ◆ High reactivity ◆ Very good pigment wetting ◆ Very good lithographic behavior in UV offset inks	6	48,000 (25°C)	<15	–	dark	1500	1.08

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Aliphatic Urethane Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Diluting Acrylate	Viscosity, cP	Color, Gardner	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 230	Aliphatic Urethane Diacrylate ◆ High molecular weight ◆ Soft ◆ Very flexible ◆ Low Tg	2	–	44014 (25°C) 3,150 (60°C)	(12)	150	83	-55	1.08
EBECRYL 264	Aliphatic Urethane Triacrylate ◆ Toughness ◆ Very good abrasion resistance ◆ Good stain resistance ◆ Flexible	3	HDODA 15%	44588 (25°C) 1850 (60°C)	0.5	4200	37	42	1.12
EBECRYL 265	Aliphatic Urethane Triacrylate ◆ Toughness ◆ Very good abrasion resistance ◆ Good stain resistance ◆ Flexible	3	TRPGDA 25%	36486 (25°C) 1530 (60°C)	0.3	4500	44	38	1.13
EBECRYL 270	Aliphatic Urethane Diacrylate ◆ Good flexibility ◆ Relatively soft ◆ Adhesion	2	TRPGDA <10%	132500 (25°C) 3102 (60°C)	0.5	1200	87	-27	1.10
EBECRYL 284	Aliphatic Urethane Diacrylate ◆ Excellent exterior durability ◆ Tough ◆ Flexible	2	HDODA 12%	64250 (25°C) 2210 (60°C)	0.5	5900	58	50	1.18
EBECRYL 280/151B	Aliphatic Urethane Diacrylate ◆ Very flexible ◆ Good performance on metal ◆ Corrosion resistance ◆ Non-yellowing, exterior durable	2	IBOA 15%	2500 (60°C)	0.5	–	–	–	1.12
EBECRYL 1290	Aliphatic Urethane Hexa-acrylate ◆ Good reactivity ◆ Excellent hardness ◆ Outstanding scratch resistance	6	–	85000 (25°C) 1960 (60°C)	0.5	6700	2	–	1.19

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

8 | EBECRYL® Urethane Acrylates

Aliphatic Urethane Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Diluting Acrylate	Viscosity, cP	Color, Gardner	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 4833	Aliphatic Urethane Diacrylate ◆ Good adhesion to various plastics ◆ Very tough and flexible ◆ Exterior durability	2	N-vinyl-2-pyrrolidone 10%	110000 (25°C) 2561 (60°C)	0.5	7800	120	47	1.11
EBECRYL 4883	Aliphatic Urethane Diacrylate ◆ Good flexibility ◆ Abrasion resistance ◆ Exterior durability ◆ Adhesion	2	TRPGDA 15%	161000 (25°C) 4385 (60°C)	0.5	2900	83	4	1.10
EBECRYL 8210	Aliphatic Urethane Acrylate ◆ Dual functionality, reactive with NCO ◆ Primary hydroxyl groups ◆ Good scratch and abrasion resistance ◆ Excellent reactivity	3.5	–	3681 (25°C)	0.5	6400	2	68	–
EBECRYL 8301-R	Aliphatic Urethane Hexa-acrylate ◆ Good reactivity ◆ Excellent hardness ◆ Outstanding scratch resistance ◆ Exterior durability	6	–	24600 (25°C) 211 (65.5°C)	0.5	7750	3	–	1.16
EBECRYL 8309	Aliphatic Urethane Acrylate ◆ Automotive refinish and general metal ◆ Excellent surface cure with low intensity UV ◆ Excellent adhesion to automotive substrates ◆ Good wetting of inert & reactive fillers ◆ High surface hardness ◆ Improved impact resistance ◆ Flexible and tough	3.7	IBOA 20%	12800 (25°C) 700 (60°C)	0.6	6000	6	–	1.10
EBECRYL 8311	Aliphatic Urethane Nanocomposite ◆ Good compatibility and stability ◆ Excellent abrasion resistance ◆ Excellent exterior durability ◆ Low haze development ◆ Good chemical resistance	–	–	9500 (25°C)	1	5200	2	–	1.38
EBECRYL 8402	Aliphatic Urethane Diacrylate ◆ Relatively low viscosity ◆ Good adhesion ◆ Outstanding exterior durability	2	–	14830 (25°C) 494 (60°C)	0.5	3350	50	14	1.12

⁽¹⁾ Not a specification

* EBECRYL® energy curable acryl

Aliphatic Urethane Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Diluting Acrylate	Viscosity, Cp	Color, Gardner	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 8405	Aliphatic Urethane Tetra-acrylate ◆ Outstanding exterior durability ◆ Excellent abrasion resistance ◆ Good flexibility	4	HDODA 20%	85000 (25°C) 5500 (60°C)	0.5	4000	29	30	1.13
EBECRYL 8411	Aliphatic Urethane Diacrylate ◆ Outstanding extensibility and flexibility ◆ Useful in screen inks ◆ Good abrasion resistance ◆ Good exterior durability	2	IBOA 20%	149500 (25°C) 6296 (60°C)	0.5	1170	320	–	1.13
EBECRYL 8412	Aliphatic Urethane Acrylate ◆ Automotive refinish and general metal ◆ Excellent surface cure with low intensity UV ◆ Excellent adhesion to automotive substrates ◆ Good flexibility and toughness ◆ Low shrinkage upon cure	3	DPGDA 15%	27400 (25°C) 1050 (60°C)	0.4	3700	18	–	1.10
EBECRYL 8501	Aliphatic Urethane Acrylate ◆ Automotive refinish and general metal ◆ Excellent surface cure with low intensity UV ◆ Good wetting of inert and reactive fillers ◆ Excellent adhesion to automotive substrates ◆ Good flexibility and toughness ◆ Low shrinkage upon cure	3	IBOA 15%	36400 (25°C) 1400 (60°C)	0.8	4200	28	–	1.10
EBECRYL 8701	Aliphatic Urethane Triacrylate ◆ Excellent abrasion resistance ◆ Good adhesion ◆ Excellent exterior durability ◆ High Tg ◆ Good chemical resistance	3	–	420000 (25°C) 5440 (60°C)	0.1	7800	4	75	1.13
EBECRYL 8702	Aliphatic Urethane Hexa-acrylate ◆ Good toughness ◆ Excellent abrasion and stain resistance ◆ Impact resistance ◆ Non-yellowing ◆ Good exterior durability	6	–	364000 (25°C) 5800 (60°C)	0.4	4700	10	28	1.13
EBECRYL 8800	Aliphatic Urethane Acrylate ◆ Excellent abrasion resistance ◆ Toughness ◆ Exterior durability	2.5	EOEOEA 10%	2900000 (25°C) 7944 (65.5°C)	0.5	3150	83	48	1.05

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Aliphatic Urethane Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Diluting Acrylate	Viscosity, Cp	Color, Gardner	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 8800-20R	Aliphatic Urethane Acrylate ◆ Abrasion resistance ◆ Toughness ◆ Exterior durability	2.5	TRPGDA 20% EOEOEA 8%	44588 (25°C) 1414 (65.5°C)	0.5	3400	45	59	1.01
EBECRYL 8804	Aliphatic Urethane Diacrylate ◆ Extremely tough ◆ Flexible ◆ Abrasion resistance	2	–	3200000 (25°C) 13439 (65.5°C)	0.5	3000	103	24	1.14
EBECRYL 8807	Aliphatic Urethane Diacrylate ◆ Very good surface reactivity ◆ Good flexibility ◆ Tough	2	–	258600 (25°C) 7003 (60°C)	0.5	1950	54	32	1.05
EBECRYL 8808	Aliphatic Urethane Diacrylate ◆ Excellent exterior durability ◆ Extremely tough ◆ Undiluted for formulating latitude ◆ Recommended for screen inks & coatings	2	–	1544000 (25°C) 14950 (60°C)	0.1	5250	63	58	1.18

Aromatic Urethane Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Diluting Acrylate	Viscosity, Cp	Color, Gardner	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 220	Aromatic Urethane Hexa-acrylate ◆ High reactivity ◆ Outstanding hardness ◆ Excellent scratch resistance ◆ Chemical resistance	6	–	28268 (25°C) 660 (60°C)	0.5	8000	3	49	1.22
EBECRYL 4827	Aromatic Urethane Diacrylate ◆ Flexibility ◆ Impact resistance ◆ Adhesion	2	–	238000 (25°C) 4291 (60°C)	0.5	900	78	-6	1.10
EBECRYL 4849	Aromatic Urethane Diacrylate ◆ Very good abrasion resistance ◆ Toughness ◆ Flexibility	2	HDODA 15%	74170 (25°C) 3146 (60°C)	0.5	2700	51	29	1.14

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

EBECRYL® Polyester Acrylates & Diluted Polyesters

Polyester Acrylates & Diluted Polyesters		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 80	Amine Modified Polyester Tetra-acrylate ◆ Outstanding reactivity ◆ Moderate viscosity ◆ High gloss ◆ Good chemical resistance	4	2822 (25°C)	(90)	–	6800	7	50	1.04
EBECRYL 81	Amine Modified Polyester Acrylate ◆ Good reactivity ◆ Very low viscosity ◆ High gloss	2.5	92 (25°C)	0.5	–	790	8	-18	1.08
EBECRYL 83	Amine Modified Polyester Tetra-acrylate ◆ Very good reactivity ◆ Low viscosity ◆ High gloss ◆ Chemical resistance	3.5	515 (25°C)	0.5	–	2000	13	6	1.08
EBECRYL 436	Diluted Chlorinated Polyester ◆ 40% TMPTA ◆ Good adhesion ◆ Fast UV cure response ◆ Good lithographic behavior	3	100000 (25°C) 1503 (60°C)	1.0	19.4	2300	1	54	1.28
EBECRYL 438	Diluted Chlorinated Polyester ◆ 40% OTA-480 ◆ Good adhesion ◆ Fast UV cure response ◆ Good lithographic behavior	3	85600 (25°C) 1499 (60°C)	1.2	19.4	2800	5	37	1.26
EBECRYL 450	Fatty Acid Modified Polyester Hexa-acrylate ◆ Good pigment wetting ◆ Good reactivity ◆ Good lithographic behavior	6	8278 (25°C) 420 (60°C)	–	11.8	4300	4	17	1.12
EBECRYL 524	Diluted Acidic Polyester ◆ 30% HDODA ◆ Good adhesion ◆ Moderate flexibility	2	61234 (25°C) 2000 (60°C)	(45)	33.9	1000	30	–	1.22

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EBECRYL® Polyester Acrylates & Diluted Polyesters

Polyester Acrylates & Diluted Polyesters		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 657	Polyester Tetra-acrylate ◆ Good pigment wetting ◆ Excellent lithographic behavior ◆ Good anti-misting properties	4	103500 (25°C) 3585 (60°C)	–	12.6	4300	23	33	1.03
EBECRYL 809	Modified Polyester Acrylate ◆ Moderate viscosity ◆ Good flexibility ◆ Surface hardness ◆ Toughness	3.5	36000 (25°C) 1276 (60°C)	0.6	7.4	3500	18	54	1.14
EBECRYL 810	Polyester Tetra-acrylate ◆ Low viscosity ◆ Hardness ◆ Chemical resistance ◆ Adhesion	4	453 (25°C)	0.5	12.5	6000	6	31	1.09
EBECRYL 811	Lithographic Ink Varnish ◆ Wet or dry offset for plastic substrates ◆ Very low misting ◆ Excellent water balance	3	90000 (25°C) 2003 (60°C)	–	5.0	4000	1	70	1.14
EBECRYL 812	Polyester Acrylate ◆ Pigment grind vehicle for flexo inks ◆ Outstanding color development ◆ Good adhesion to plastics and papers	3.5	9320 (25°C) 340 (60°C)	1.5	8	5700	2	72	1.14
EBECRYL 830	Polyester Hexaacrylate ◆ Hardness ◆ Abrasion/scratch resistance ◆ Chemical resistance	6	49298 (25°C) 1450 (60°C)	0.3	21.8	12500	5	60	1.18
EBECRYL 870	Fatty Acid Modified Polyester Hexa-acrylate ◆ Rheology suited for lithographic inks ◆ Good pigment wetting ◆ High reactivity ◆ Good solvent resistance	6	43070 (25°C) 2340 (60°C)	–	11.3	4500	5	41	1.08
EBECRYL 871	Lithographic Ink Varnish ◆ Excellent pigment wetting ◆ Good water balance ◆ Good reactivity ◆ Low misting ◆ Excellent printability	6	47450 (25°C)	5.5	7.3	5100	4	23	1.1

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* EBECRYL® energy curable acrylates

EBECRYL® Polyester Acrylates & Diluted Polyesters

Polyester Acrylates & Diluted Polyesters		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 885	Polyester Triacrylate ◆ Excellent abrasion resistance ◆ High flexibility ◆ Good reactivity ◆ Moderate viscosity	3	35963 (25°C)	0.3	7.6	508	44	21	1.19
EBECRYL 887	Polyester Tetra-acrylate ◆ Excellent oligomer for pigment grinding, especially suitable for carbon black ◆ Inks exhibit excellent flow and transfer ◆ Excellent printability	4	13220 (25°C)	10	–	–	–	–	1.14
EBECRYL 888	Polyester Acrylate ◆ Excellent adhesion ◆ Excellent ink receptivity ◆ High flexibility ◆ Low viscosity	3.5	3400 (25°C)	3	–	–	–	–	1.19
EBECRYL 889	Polyester Tetra-acrylate ◆ Designed for energy curable publication inks ◆ Adhesion to super-calendared paper ◆ Lower ink tack & misting ◆ High gloss & excellent printability	4	32300 (25°C)	–	–	–	–	–	1.07
EBECRYL 891	Modified Polyester Acrylate ◆ UV curable field applied concrete coatings ◆ Low viscosity ◆ Good cure response ◆ Good chemical resistance ◆ Balanced properties for concrete coatings	3.6	3000 (25°C)	4	25	960	12	–	1.13

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Polymer/Diluent Blends		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Diluting Acrylate	Viscosity, Cp	Color, Gardner	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 303	Diluted Hydrocarbon Polymer ◆ Light color ◆ Low viscosity ◆ Improved adhesion ◆ Good exterior durability	2	HDODA 45%	577 (25°C)	0.2	–	–	–	1.10
EBECRYL 745	Diluted Acrylic Polymer ◆ Excellent substrate adhesion ◆ Intercoat adhesion ◆ Flexibility	2	HDODA 23% TRPGDA 23%	22479 (25°C) 1900 (60°C)	1.5	1900	52	30	1.05
EBECRYL 1710	Diluted Acrylic Polymer ◆ Improved adhesion ◆ Film formation ◆ Exterior durability	2	HDODA 60%	24480 (25°C) 2300 (60°C)	0.5	6400	4	82	1.07

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Epoxy Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 600	Bisphenol-A Epoxy Diacrylate ◆ High reactivity ◆ Low color ◆ High gloss ◆ Excellent solvent resistance	2	600000 (25°C) 3543 (60°C)	0.5	1.1	13900	7	67	1.17
EBECRYL 605	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 600 with 25% TRPGDA ◆ Reduced viscosity ◆ Easier handling	2	7617 (25°C) 248 (60°C)	0.6	0.9	8300	7	92	1.17
EBECRYL 608	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 600 with 25% OTA-480 ◆ Reduced viscosity ◆ Easier handling	2	26043 (25°C) 655 (60°C)	0.5	0.7	8700	6	83	1.15
EBECRYL 860	Epoxidized Soya Oil Tetra-acrylate ◆ Good flow and leveling ◆ Pigment wetting ◆ Adhesion	4	26518 (25°C) 990 (60°C)	6.5	8.3	1000	20	13	1.03
EBECRYL 3200	Low Viscosity Epoxy Acrylate ◆ Handling ease ◆ Flexibility ◆ Pigment wetting	1.6	2235 (25°C)	1.5	0.3	11900	6	48	1.10
EBECRYL 3201	Aliphatic/Aromatic Epoxy Acrylate ◆ Low viscosity ◆ Flexibility ◆ Outstanding wetting and flow	1.9	3597 (25°C)	2.0	1.7	2300	20	8	1.13

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Epoxy Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 3300	Modified Epoxy Diacrylate ◆ Low viscosity ◆ High reactivity ◆ Light color ◆ Corrosion resistance ◆ 35% DPGDA	2	998 (25°C)	0.7	0.4	9135	5	130	1.12
EBECRYL 3411	Fatty Acid Modified Epoxy Diacrylate ◆ Flow and leveling ◆ Pigment wetting ◆ Low viscosity ◆ Flexibility	2	40100 (25°C) 807 (60°C)	4.5	1.1	7100	9	52	1.13
EBECRYL 3415	Modified Epoxy Diacrylate ◆ Adhesion to plastic substrates ◆ Good pigment milling properties ◆ Very useful in screen inks ◆ 40% HDODA	1.5	17500 (25°C) 1250 (60°C)	0.7	1.1	6800	3	68	1.10
EBECRYL 3500	Modified Epoxy Diacrylate ◆ Increased toughness ◆ Moderate viscosity ◆ Chemical resistance ◆ High gloss	2	60000 (25°C) 1184 (60°C)	2.5	2.5	6500	43	35	1.18
EBECRYL 3600	Amine Modified Epoxy Diacrylate ◆ Exceptional reactivity ◆ Hardness ◆ High gloss ◆ Chemical resistance	2	232000 (25°C) 1334 (65.5°C)	1.5	0.1	12300	8	59	1.17
EBECRYL 3700	Bisphenol-A Epoxy Diacrylate ◆ High reactivity ◆ Excellent solvent resistance ◆ High gloss	2	800000 (25°C) 2317 (65.5°C)	2.5	0.2	12000	5	65	1.18
EBECRYL 3701	Modified Bisphenol-A Epoxy Diacrylate ◆ Improved flexibility ◆ Toughness ◆ Increased adhesion ◆ High reactivity	2	1600000 (25°C) 3996 (65.5°C)	3.0	2.7	11400	7	52	1.19

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Epoxy Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 3701-20T	Modified Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 3701 with 20% TMPTA ◆ Reduced viscosity ◆ Easier handling	2	89500 (25°C) 925 (65.5°C)	2.5	2.3	14200	7	62	1.18
EBECRYL 3702	Fatty Acid Modified Epoxy Diacrylate ◆ Flow and leveling ◆ Pigment wetting ◆ Increased flexibility	2	495000 (25°C) 2249 (65.5°C)	4.0	1.1	9500	10	56	1.14
EBECRYL 3703	Amine Modified Epoxy Diacrylate ◆ Exceptional reactivity ◆ Increased flexibility ◆ High gloss ◆ Improved adhesion	2	320000 (25°C) 2117 (65.5°C)	2.0	2.5	5900	47	57	1.18
EBECRYL 3708	Modified Bisphenol-A Epoxy Diacrylate ◆ Very good flexibility ◆ Impact resistance ◆ Good reactivity	2	190000 (25°C) 3475 (60°C)	1.5	1.7	1094	110	21	1.16
EBECRYL 3720	Bisphenol-A Epoxy Diacrylate ◆ Standard epoxy diacrylate ◆ Light color ◆ High reactivity ◆ Solvent resistance ◆ High gloss	2	750000 (25°C) 1960 (65.5°C)	0.5	0.6	11000	8	67	1.13
EBECRYL 3720-HD20	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 3720 with 20% HDODA ◆ Reduced viscosity ◆ Easier handling	2	8203 (25°C) 320 (60°C)	0.5	0.7	9900	7	91	1.14
EBECRYL 3720-TM20	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 3720 with 20% TMPTA ◆ Reduced viscosity ◆ Easier handling	2	44000 (25°C) 759 (60°C)	0.5	1.0	9400	6	101	1.12
EBECRYL 3720-TM40	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 3720 with 40% TMPTA ◆ Reduced viscosity ◆ Easier handling	2	7085 (25°C) 235 (60°C)	0.5	0.8	8300	4	80	1.15
EBECRYL 3720-TP25	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 3720 with 25% TRPGDA ◆ Reduced viscosity ◆ Easier handling	2	10962 (25°C) 315 (60°C)	0.5	0.7	9800	4	96	1.14

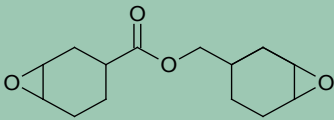
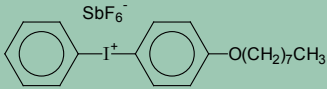
⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Epoxy Acrylates		Typical Properties ⁽¹⁾							
Product	Description ◆ Key Features & Performance	Functionality	Viscosity, cP	Color, Gardner	Acid Value, mg KOH/g	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
EBECRYL 3720-TP40	Bisphenol-A Epoxy Diacrylate ◆ EBECRYL 3720 with 40% TRPGDA ◆ Reduced viscosity ◆ Easier handling	2	2050 (25°C) 100 (60°C)	0.5	0.6	7400	3	80	1.14
EBECRYL 3730-TP20	Modified Bisphenol-A Epoxy Diacrylate ◆ Improved wetting ◆ Chemical resistance ◆ High gloss ◆ 20% TRPGDA	2	35500 (25°C) 686 (60°C)	1.2	0.3	9800	3	99	1.15

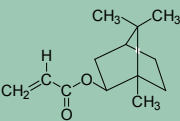
⁽¹⁾ Not a specification

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Cationic Curing Products		Typical Properties ⁽¹⁾						
Product Cycloaliphatic Epoxide	Description ◆ Key Features & Performance	Viscosity, cP	Color, Pt-Co	Weight per Epoxide	Tensile Strength, psi	Tensile Elongation, %	Tg, °C	Density, g/ml at 25°C
UVACURE 1500 	Cycloaliphatic Diepoxide ◆ High purity grade ◆ Reduced viscosity ◆ Very Low color ◆ Excellent adhesion ◆ Chemical resistance ◆ Low yellowing ◆ Good hardness	240 (25°C)	15	132	6000	7	77	1.17
Product Cationic Initiator	Description ◆ Key Features & Performance	Typical Properties ⁽¹⁾			Appearance	Antimony, %	Melting Point 25°C	
UVACURE 1600 	Iodonium Salt Cationic Initiator ◆ Phenyl-p-octyloxyphenyl-iodonium hexafluoroantimonate ◆ Excellent solubility in epoxy resin systems ◆ Good thermal stability ◆ Useful in EB cationic curing		White	18.8	57			

⁽¹⁾ Not a specification

* UVACURE® energy curable resins

Diluting Acrylates		Typical Properties ⁽¹⁾					
Product	Description	Viscosity cP at 25°C	Color, Pt-Co (Gardner)	Water, %	Residual Solvent, %	Acid Value, (% Acrylic Acid)	Density, g/ml at 25°C
Monofunctional β-CEA $\text{CH}_2=\text{CH}-\text{C}(=\text{O})-\text{O}-(\text{CH}_2-\text{CH}_2-\text{C}(=\text{O}))_n-\text{H}$ average n = 1	β-Carboxyethyl Acrylate ♦ Predominately acrylic acid dimer ♦ Acrylate and carboxylic acid functionality ♦ Adhesion promoter for glass, metal, paper	73	35	0.81	–	365	1.21
IBOA 	Isobornyl Acrylate ♦ High purity, low color ♦ Flexibility without softening ♦ Increased Tg	9.5	7	0.03	–	(0.0)	0.97
ODA-N $\text{CH}_2=\text{CH}-\text{C}(=\text{O})-\text{O}-(\text{CH}_2)_n-\text{CH}_3$ n = 7, 9	Octyl/Decyl Acrylate ♦ Excellent diluency ♦ Flexibility, low Tg ♦ Hydrophobic	2.5	11	0.03	0.018	(0.01)	0.88
EBECRYL® 110 $\text{CH}_2=\text{CH}-\text{C}(=\text{O})-\text{O}-(\text{CH}_2\text{CH}_2\text{O})_n-\text{C}_6\text{H}_5$ n ~ 2	Oxyethylated Phenol Acrylate ♦ Reduced odor ♦ Good diluency	22	(0.5)	–	0.006	0.2	1.12
EBECRYL 113	Aliphatic Acrylate ♦ Low odor ♦ Good pigment wetting ♦ Good reactivity ♦ Increased flexibility ♦ Improved adhesion	120	(0.7)	–	–	0.4	0.97
EBECRYL 114 $\text{CH}_2=\text{CH}-\text{C}(=\text{O})-\text{O}-\text{CH}_2-\text{CH}_2-\text{O}-\text{C}_6\text{H}_5$	2-Phenoxyethyl Acrylate ♦ Low viscosity ♦ Good diluency ♦ Improved adhesion ♦ Beneficial in screen inks	10	24	–	–	0.5	1.10
EBECRYL 1039	Urethane Acrylate ♦ Mild odor ♦ Excellent flexibility ♦ Very good adhesion	40	25	–	–	–	1.07

⁽¹⁾ Not a specification

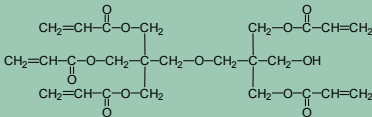
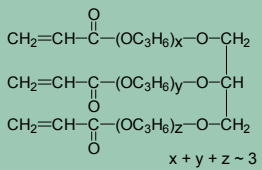
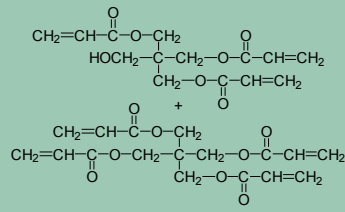
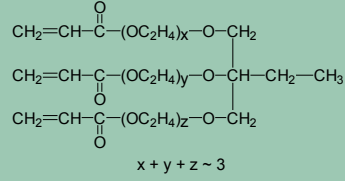
* EBECRYL® energy curable acrylates

Diluting Acrylates		Typical Properties ⁽¹⁾					
Product	Description	Viscosity cP at 25°C	Color, Pt-Co (Gardner)	Water, %	Residual Solvent, %	Acid Value, (% Acrylic Acid)	Density, g/ml at 25°C
Difunctional	◆ Key Features & Performance						
DPGDA $\text{CH}_2=\text{CH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}-(\text{C}_3\text{H}_6\text{O})_2-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}=\text{CH}_2$	Dipropylene Glycol Diacrylate ◆ Good diluency ◆ Improved flexibility, adhesion ◆ Reactivity	9.2	36	0.04	0.13	0.2	1.06
HDODA $\text{CH}_2=\text{CH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}-(\text{CH}_2)_6-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}=\text{CH}_2$	1,6-Hexanediol Diacrylate ◆ Good weatherability ◆ Excellent diluency ◆ Adhesion	6.3	8	0.14	0.05	0.08	1.01
NPG(PO)₂DA $\text{CH}_2=\text{CH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}-(\text{C}_2\text{H}_5\text{O})_n-\text{CH}_2-\overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}}-\text{CH}_2-(\text{C}_2\text{H}_5\text{O})_m-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}=\text{CH}_2$ $n + m \sim 2$	Neopentyl Glycol Propoxylate (2) Diacrylate ◆ Increased flexibility ◆ Lower surface tension ◆ Improved adhesion	15.9	48	0.03	0.003	0.07	1.007
TRPGDA $\text{CH}_2=\text{CH}-\overset{\text{O}}{\parallel}{\text{C}}-\text{O}-(\text{C}_3\text{H}_6\text{O})_3-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}=\text{CH}_2$	Tripropylene Glycol Diacrylate ◆ Branched alkyl polyether backbone ◆ Combines flexibility, moisture resistance, low viscosity and good reactivity without causing brittleness	11.8	11	0.16	0.03	0.11	1.03
EBECRYL® 130	Alicyclic Diacrylate ◆ Good adhesion ◆ Low volumetric shrinkage ◆ Good hardness ◆ Increase barrier properties	171	(0.5)	–	–	0.5	1.09
EBECRYL 150 $\text{CH}_2=\text{CH}-\overset{\text{O}}{\parallel}{\text{C}}-(\text{OC}_2\text{H}_4)_n-\text{O}-\text{C}_6\text{H}_4-\overset{\text{CH}_3}{\underset{\text{CH}_3}{\text{C}}}-\text{C}_6\text{H}_4-\text{O}-(\text{C}_2\text{H}_4\text{O})_m-\overset{\text{O}}{\parallel}{\text{C}}-\text{CH}=\text{CH}_2$ $n + m \sim 4$	Bisphenol-A Ethoxylate Diacrylate ◆ High reactivity ◆ Hardness ◆ Chemical resistance	1347	(0.5)	–	0.003	2.7	1.14

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

22 Diluting Acrylates

Diluting Acrylates		Typical Properties ⁽¹⁾					
Product	Description	Viscosity cP at 25°C	Color, Pt-Co (Gardner)	Water, %	Residual Solvent, %	Acid Value, (% Acrylic Acid)	Density, g/ml at 25°C
Tri & Higher Functional	◆ Key Features & Performance						
DPHA 	Acrylated Dipentaerythritol ◆ Increased crosslinking ◆ High reactivity ◆ Excellent hardness, scratch resistance ◆ Chemical resistance ◆ Pendant hydroxyl functionality ◆ Mixture of penta- and Hexa-acrylate	17093	0.5	–	0.014	(0.03)	1.17
OTA-480 	Propoxylated Glycerol Triacrylate ◆ Good reactivity ◆ Crosslinking, hardness, chemical resistance without brittleness ◆ Pigment wetting	88	42	0.02	0.010	0.16	10.08
PETIA 	Pentaerythritol Tri-Tetra-acrylate ◆ Tetra- to Tri- acrylate ester ratio ~ 1 to 1 ◆ Liquid at normal ambient temperature ◆ High reactivity ◆ Very good hardness, scratch resistance ◆ Pendant hydroxyl functionality	1044	30	–	0.007	6.8	1.18
TMPEOTA 	Trimethylolpropane Ethoxy Triacrylate ◆ Low levels of non-TMP ethoxy-ate esters ◆ Good diluency ◆ High UV reactivity ◆ Increased flexibility vs. TMPTA	70	40	0.16	0.01	0.1	1.10

⁽¹⁾ Not a specification

Diluting Acrylates		Typical Properties ⁽¹⁾					
Product	Description	Viscosity cP at 25°C	Color, Pt-Co (Gardner)	Water, %	Residual Solvent, %	Acid Value, (% Acrylic Acid)	Density, g/ml at 25°C
Tri & Higher Functional	◆ Key Features & Performance						
TMPTA 	Trimethylolpropane Triacrylate ◆ Increases crosslinking ◆ Imparts hardness ◆ Chemical resistance ◆ Good reactivity	115	35	0.03	0.01	0.3	1.10
EBECRYL 140 	Ditrimethylolpropane Tetra-acrylate ◆ High crosslinking ◆ Increased hardness ◆ Good chemical resistance ◆ Improved abrasion/scratch resistance	979	85	–	0.008	5.1	1.08
EBECRYL 180 	Pentaerythritol Tri-Tetraacrylate ◆ Tetra- to Tri- acrylate ester ratio ~2 to 1 ◆ Crystallizes at normal ambient temperature ◆ High reactivity ◆ Excellent hardness, scratch resistance ◆ Pendant hydroxyl functionality	603	29	0.01	0.002	0.64	1.18
EBECRYL 40 	Polyether Tetra-acrylate ◆ Good reactivity ◆ Increased hardness without embrittlement ◆ Chemical resistance ◆ Improved abrasion/scratch resistance	147	(0.4)	–	0.002	1.4	1.15
EBECRYL 53 	Propoxylated Glycerol Triacrylate ◆ Purified version of OTA-480 ◆ Lower residual odor ◆ Reduced residual acrylic acid ◆ Reduced residual solvent	94	43	0.02	(5)	0.2	1.08

⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

Additives		Typical Properties ⁽¹⁾				
Product	Description	Functionality	Viscosity cP at 25°C	Color, Gardner (Iodine)	Acid Value	Density, g/ml at 25°C
Adhesion Promoters	◆ Key Features & Performance					
EBECRYL 168	Acidic Methacrylate ◆ Excellent adhesion promotion on metal ◆ Increased compatibility compared to EBECRYL 170 and 171	2	1466	0.5	282	1.29
EBECRYL 170	Acidic Acrylate ◆ Excellent adhesion promotion on metal ◆ Increased reactivity compared to EBECRYL 168 and 171	2	3245	3	288	1.33
Flow, Leveling, Wetting						
EBECRYL 350	Silicone Diacrylate ◆ COF reduction, increased slip ◆ Improved substrate wetting ◆ Non-migratory	2	288	7.5	2.4	1.05

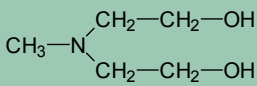
⁽¹⁾ Not a specification

* EBECRYL® energy curable acrylates

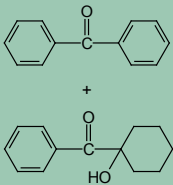
Additives		Typical Properties ⁽¹⁾	
Product	Description	Appearance	Viscosity, cP at 25°C (60°C)
Stabilizers	◆ Key Features & Performance		
ADDITOL S 120	Stabilizer ◆ Recommended for pigmented systems, even those based on unstable pigments ◆ Very good stability performance for a wide variety of formulations and pigments ◆ Stabilization of high levels of pigmentation ◆ Compatible with most UV/EB systems	Pale colored liquid	90

⁽¹⁾ Not a specification

* ADDITOL® additives and photoinitiators

Photoinitiators		Typical Properties ⁽¹⁾				
Product	Description	Viscosity, cP at 25°C	Appearance (Color, Gardner) [Color, Pt-Co]	Melting Point (Boiling Point) °C	Weight per Amine (Molecular Weight)	Density, g/ml at 25°C
Amine Synergists						
	◆ Key Features & Performance					
EBECRYL P104	Acrylated Amine ◆ Improved stability ◆ Reduced odor ◆ Decreased moisture sensitivity	10	(0.5)	–	300	1.01
EBECRYL P115	Copolymerizable Amine ◆ Improved stability ◆ Reduced odor ◆ Decreased moisture sensitivity	22	(0.5)	–	223	0.99
EBECRYL 7100	Acrylated Amine ◆ Improved stability ◆ Reduced odor ◆ Decreased moisture sensitivity ◆ Adhesion	1074	(0.5)	–	400	1.10
MDEA 	N-Methylethanolamine ◆ Promotes rapid UV cure ◆ Very low color ◆ Low volatility	100	[50]	(247)	119	1.04

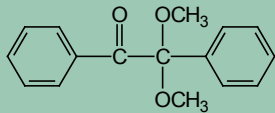
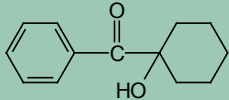
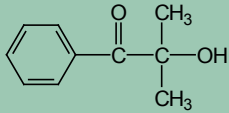
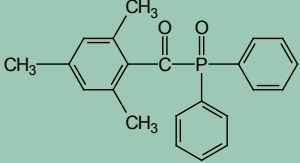
Mixtures

ADDITOL BCPK 	Benzophenone + 1-Hydroxy-cyclohexylphenyl-ketone ◆ Eutectic liquid (1:1 ratio) ◆ Easily incorporated ◆ Good combination of surface and through cure	–	–	<25	(193)	1.12
ADDITOL DX	Liquid Photoinitiator ◆ Effective in colored inks at 5-10% levels ◆ Pourable liquid ◆ Useful in flexo, litho and screen inks	95	(8)	<25	–	1.10
ADDITOL LX	Liquid Photoinitiator ◆ Effective in white inks at 5-10% levels ◆ Photobleaches ◆ Also useful in yellow inks ◆ Useful in flexo, litho and screen inks ◆ Pourable liquid	120	(6.5)	<25	–	1.10

⁽¹⁾ Not a specification

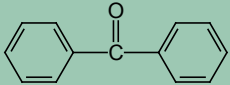
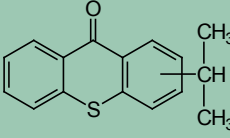
* ADDITOL® additives and photoinitiators

* EBECRYL® energy curable acrylates

Photoinitiators		Typical Properties ⁽¹⁾				
Product	Description	Viscosity, cP at 25°C	Appearance	Melting Point, °C	Molecular Weight	Density, g/ml at 25°C
Alpha Cleavage ADDITOL BDK 	2,2-Dimethoxy-1,2-diphenylethan-1-one ♦ Multipurpose photoinitiator ♦ Good solubility ♦ Used alone or combined with other photoinitiators	solid	White crystalline powder	64-67	256	–
ADDITOL CPK 	1-Hydroxy-cyclohexylphenyl-ketone ♦ Imparts very little yellowing to films on UV cure and outdoor exposure ♦ Good solubility	solid	White crystalline powder	46-50	204	1.17
ADDITOL HDMAP 	2-Hydroxy-2-methyl-1-phenylpropanone ♦ Low viscosity liquid ♦ Good solvency of solid photoinitiators	23	Slightly yellow clear liquid	–	164	1.07
ADDITOL TPO 	2,4,6-Trimethylbenzoyl diphenyl phosphine oxide ♦ Low yellowing in white pigmented systems ♦ Efficient cure of thick clear coatings	solid	Pale yellow powder	88-93	348	–

⁽¹⁾ Not a specification

* ADDITOL® additives and photoinitiators

Photoinitiators		Typical Properties ⁽¹⁾				
Product	Description	Viscosity, cP at 25°C	Appearance (Color, Gardner)	Melting Point, °C	Molecular Weight	Density, g/ml at 25°C
Hydrogen Abstraction	◆ Key Features & Performance					
ADDITOL BP 	Benzophenone ◆ High purity ◆ Good solubility ◆ Excellent surface cure when combined with amine synergists	solid	White crystalline flakes	47-49	182	1.11
ADDITOL ITX 	Isopropyl thioxanthone ◆ Suited to non-white pigmented systems ◆ Mixture of 2- and 4-isomers ◆ Excellent reactivity when combined with amine synergists	solid	Pale yellow powder	56-72	254	–
EBECRYL P39	Polymeric Benzophenone Derivative ◆ UV coatings with very low residual odor ◆ Low vapor pressure and volatility ◆ 25% EBECRYL LEO 10501	9000	(<8)	–	–	1.19

⁽¹⁾ Not a specification

* ADDITOL® additives and photoinitiators

* EBECRYL® energy curable acrylates

Selection Guide - Resins and Diluting Acrylates

The following table provides a comparison of select performance properties for the resin and diluent products. Each product family is assigned a relative ranking for each performance property represented by the numeral just below the column heading. The higher numeral indicates increased performance for that family. The number of bullets in each performance property column represents a relative ranking for that product within its product family. Better performance is indicated by more bullets. To compare the performance of products from different product families, multiply the number of bullets by the numeral.

For example, comparing the reactivity of the epoxy acrylate EBECRYL® 3700 (●●●● x 5 = 20) to that of the aliphatic urethane acrylate EBECRYL 1290 (●●●●● x 3 = 15) indicates that EBECRYL 3700 has the superior reactivity.

Note: For the performance category of viscosity, increased performance equals lower viscosity.

Resins	UV/EB Reactivity	Viscosity	Adhesion	Hardness	Flexibility	Weatherability	Chemical Resistance	Moisture Resistance	Abrasion Resistance	Scratch Resistance
Epoxy Acrylates	5	3	3	4	2	1	5	3	2	3
EBECRYL 600	●●●●	●	●●●	●●●●●	●	●	●●●●●	●●●●	●●●	●●●●●
EBECRYL 605	●●●	●●●●	●●●	●●●	●●	●●	●●●●	●●●	●●	●●●
EBECRYL 608	●●●●	●●●	●●●	●●●●	●	●●	●●●●	●●●●	●●●	●●●
EBECRYL 860	●	●●●	●●	●	●●●	●●●●●	●	●●●●	●	●
EBECRYL 1608	●●●●	●●●	●●●	●●●●	●	●●	●●●●	●●●●	●●●	●●●
EBECRYL 3200	●●	●●●●●	●●●	●●	●●●	●●●	●●	●●●	●●●	●
EBECRYL 3201	●●	●●●●●	●●	●	●●●	●●●	●	●●	●●	●
EBECRYL 3300	●●●●	●●●●●	●●●●	●●●●	●●	●●	●●●	●●●	●●●	●●●
EBECRYL 3411	●●●	●●●	●●●	●●●●	●●●	●●	●●●	●●●	●●●	●●
EBECRYL 3415	●●	●●●●	●●●●●	●●	●●	●●	●●●	●●●●	●●●	●●
EBECRYL 3500	●●●	●●●	●●●●●	●●●	●●●	●●	●●●	●●●	●●●●●	●●●
EBECRYL 3600	●●●●●	●●	●●●●	●●●●●	●	●	●●●●	●●●	●●	●●●●
EBECRYL 3700	●●●●	●	●●●	●●●●●	●	●	●●●●●	●●●●	●●●	●●●●●
EBECRYL 3701	●●●●	●	●●●●	●●●●	●●●	●●	●●●●	●●●●●	●●●●	●●●
EBECRYL 3701-20T	●●●●	●●	●●●	●●●●	●●	●●	●●●●	●●●●●	●●●	●●●
EBECRYL 3702	●●●	●●	●●●●	●●●	●●●	●●	●●●●	●●●	●●●●	●●
EBECRYL 3703	●●●●●	●●	●●●●	●●●●	●●	●	●●●●	●●●	●●●	●●●
EBECRYL 3708	●●●	●●	●●●●	●●	●●●●●	●●	●●●	●●●	●●●●	●●
EBECRYL 3720	●●●●	●	●●●	●●●●●	●	●	●●●●●	●●●●	●●●	●●●●●
EBECRYL 3720-HD20	●●●	●●●●	●●●	●●●●	●●	●●	●●●●	●●●	●●●	●●●
EBECRYL 3720-TM20	●●●●	●●●	●●●	●●●●●	●	●●	●●●●●	●●●	●●	●●●
EBECRYL 3720-TM40	●●●●	●●●●	●●	●●●●●	●	●●	●●●●●	●●●	●●	●●●●
EBECRYL 3720-TP25	●●●	●●●●	●●●	●●●	●●	●●	●●●●	●●●	●●	●●●
EBECRYL 3720-TP40	●●●	●●●●●	●●●	●●●	●●	●●	●●●	●●●	●●	●●●
EBECRYL 3730-TP20	●●●	●●●●●	●●●	●●●	●●	●●	●●●	●●●	●●	●●●

* EBECRYL® energy curable acrylates

Resins	UV/EB Reactivity	Viscosity	Adhesion	Hardness	Flexibility	Weatherability	Chemical Resistance	Moisture Resistance	Abrasion Resistance	Scratch Resistance
Aliphatic Urethane Acrylates	3	2	3	3	5	5	2	4	5	5
EBECRYL 230	•	•••	•••	•	•••••	••	•	••	•	•
EBECRYL 264	•••	•••	••	••••	••	•••	••••	•••	•••••	•••
EBECRYL 265	•••	•••	•••	••••	••	••	••••	•••	•••••	•••
EBECRYL 270	••	••	•••	•	•••••	•••	••	••	••	•
EBECRYL 284	•••	•••	•••	•••	•••	•••••	•••	•••	•••	••
EBECRYL 284/15IB	••	•••	•••	••	••••	•••••	••	•••	•••	••
EBECRYL 1290	•••••	•••	••	•••••	•	•••	•••••	•••	••••	•••••
EBECRYL 4833	•••	••	•••••	•••	•••	•••••	•••	•••	•••	••
EBECRYL 4883	•••	••	•••	••	•••	•••	•••	•••	•••	••
EBECRYL 8210	•••••	•••••	••	•••••	•	•••	•••••	•••	••••	•••••
EBECRYL 8301-R	•••••	••••	••	•••••	•	•••	•••••	•••	••••	•••••
EBECRYL 8311	•••	•••••	•••	•••••	••	••••	••••	••••	•••••	•••••
EBECRYL 8402	•••	•••••	••••	•••	•••	•••••	•••	•••	•••	••
EBECRYL 8405	•••	•••	•••	•••	•••	•••••	•••	•••	•••	••
EBECRYL 8411	••	•••	•••	•	•••••	•••	••	••	••	••
EBECRYL 8701	•••	••	•••	••••	••	•••••	••••	••••	•••••	••••
EBECRYL 8800	••••	•	•••	•••	•••	••••	•••	••••	•••	••
EBECRYL 8800-20R	••••	•••	•••	•••	•••	•••	•••	••••	•••	••
EBECRYL 8804	•••	•	•••	•••	•••	•••	•••	•••	••••	••
EBECRYL 8807	•••••	••	•••	•••	•••	•••	•••	••••	•••	••
EBECRYL 8808	•••	•	•••	•••	••••	•••••	•••	•••	•••	••
Aromatic Urethane Acrylates	3	2	3	3	5	2	3	4	5	5
EBECRYL 220	•••••	••••	•	•••••	•	•	•••••	••••	••••	•••••
EBECRYL 4827	•	••	•••	•	•••••	••••	•	•••	••	••
EBECRYL 4849	••	•••	••••	••	••••	•••••	•••	•••	•••	••

* EBECRYL® energy curable acrylates

Resins	UV/EB Reactivity	Viscosity	Adhesion	Hardness	Flexibility	Weatherability	Chemical Resistance	Moisture Resistance	Abrasion Resistance	Scratch Resistance
Polyester Acrylates & Diluted Polyesters	4	5	3	3	2	3	3	2	3	4
EBECRYL® 80	●●●●●	●●●	●●●	●●●●	●	●●	●●●●	●●	●●●●●	●●●
EBECRYL 81	●●●	●●●●●	●●●	●●	●●●	●●	●●	●	●	●
EBECRYL 83	●●●●	●●●●	●●●	●●●	●●	●●	●●●	●●	●●●●	●●
EBECRYL 436	●●●●	●	●●●●●	●●●	●	●●	●●●	●●	●●	●●
EBECRYL 438	●●●●	●●	●●●●●	●●●	●	●●	●●●	●●	●●	●●
EBECRYL 450	●●●	●●●	●●●	●●●	●●	●●●	●●●●	●●●	●●●●	●●●
EBECRYL 524	●	●●	●●●●●	●●	●●●	●●	●	●●	●●	●
EBECRYL 657	●●●	●	●●●	●●●	●●	●●	●●●	●●●	●●●	●●
EBECRYL 809	●●	●●●	●●	●●	●●●●●	●●●	●●	●●●	●●●●	●●
EBECRYL 810	●●●	●●●●	●●●	●●●	●●	●●●●	●●●●	●●●●	●●●●	●●●
EBECRYL 811	●●	●●	●●●	●●●	●●	●●●	●●●	●●	●●●	●●
EBECRYL 812	●●●	●●●	●●●	●●●	●●●●	●	●●●●	●●●	●●●●	●●
EBECRYL 830	●●●	●●	●●	●●●●●	●	●●●●●	●●●●●	●●●●●	●●●●●	●●●●●
EBECRYL 870	●●●●	●●	●●●	●●●	●●	●●	●●●	●●●	●●●	●●
EBECRYL 871	●●●●	●●	●●●	●●●	●●	●●	●●●	●●●	●●●	●●
EBECRYL 885	●●●	●●	●●●	●●●	●●●●●	●●●●	●●●	●●●	●●●●●	●●●
EBECRYL 887	●●●	●●●	●●	●●●	●●	●●	●●●	●●●	●●●	●●●
EBECRYL 888	●●●	●●●	●●●●	●●●	●●●●	●●	●●	●●	●●●	●●●
EBECRYL 889	●●●	●●	●●●●	●●●	●●	●●	●●●	●●●	●●	●●
Acrylic Acrylates	2	1	5	2	3	4	2	4	2	1
EBECRYL 303	●●	●●●●●	●●●●●	●●●	●●	●●●●	●●	●●●	●●	●●●
EBECRYL 745	●●●	●●●●	●●●●●	●●●	●●●	●●●●	●●	●●●●	●●●	●●
EBECRYL 1710	●●	●●●●	●●●●	●●●	●●	●●●●	●●	●●●●	●●	●●●●

* EBECRYL® energy curable acrylates

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Diluting Acrylates	UV/EB Reactivity	Dilucency	Adhesion	Hardness	Flexibility	Weatherability	Chemical Resistance	Moisture Resistance	Abrasion Resistance	Scratch Resistance
Diluting Acrylates Monofunctional	2	5	4	1	5	3	2	3	2	1
B-CEA	●●●●●	●	●●●●●	●●●●	●●	●●	●●●●	●●	●●●	●●
IBOA	●●	●●	●●●	●●●●●	●●	●●●●●	●●●●●	●●●	●●●●●	●●●●●
ODA-N	●	●●●●●	●	●	●●●●●	●●●	●	●●●●●	●●	●
EBECRYL® 110	●●●●	●●●	●●	●●	●●●	●●	●●	●●	●●●	●●●
EBECRYL 113	●●●	●	●●●●	●●	●●●	●●●	●●●	●●●	●●	●●
EBECRYL 114	●●●●	●●●●	●●●●	●●●	●●●	●●	●●●	●●●	●●●	●●●
EBECRYL 1039	●●	●●	●●●●●	●●	●●●●	●●●	●●	●●	●●	●●
Diluting Acrylates Difunctional	3	4	3	3	2	4	2	3	3	3
DPGDA	●●●	●●●	●●●	●●●	●●●	●●●●	●●●●	●●●	●●●	●●●●
HDODA	●●●	●●●●●	●●●●●	●●	●●●●●	●●●●●	●●●	●●●●●	●●●●●	●●●
NPG(PO) ₂ DA	●	●●●	●●●●	●	●●●●●	●●●	●●	●●●	●●●●	●●
TRPGDA	●●	●●●	●●●●	●●●	●●●●	●●●	●●●●	●●●●	●●●●	●●●
EBECRYL 130	●●	●●	●●●●●	●●●●	●●●	●●●	●●●●	●●●●●	●●●●	●●●●●
EBECRYL 150	●●●●	●	●●	●●●●●	●●	●	●●●●●	●●●●●	●●●	●●●●●
Diluting Acrylates Trifunctional & Higher	4	3	2	5	1	3	4	3	3	4
DPHA	●●●●	●	●	●●●●●	●	●	●●●●●	●●●	●●	●●●●●
OTA-480	●●	●●●	●●●●●	●●	●●●●	●●●●	●●●	●●●●	●●●●	●●
PETIA	●●●●●	●●	●●	●●●●	●	●●	●●●●	●●	●●	●●●●
TMPEOTA	●●●	●●●●●	●●●	●●●	●●●●●	●●●	●●●	●●●	●●●●●	●●●
TMPTA	●●●●	●●●	●●	●●●●	●	●●●●●	●●●●	●●●●●	●●●	●●●●
EBECRYL 140	●●●●	●●	●●	●●●●	●	●●●	●●●●	●●●●	●●●	●●●
EBECRYL 180	●●●●●	●●	●	●●●●●	●	●●	●●●●●	●●	●●	●●●●●
EBECRYL 40	●●●	●●●	●●●	●●●	●●●	●●●	●●●●	●●●●	●●●●	●●●
EBECRYL 53	●●	●●●	●●●●●	●●	●●●●	●●●●	●●●	●●●●	●●●●	●●

* EBECRYL® energy curable acrylates

Photoinitiator		State (Solid/Liquid)	Clear – Wood	Pigmented – Wood	Clear – Plastics/Metal	Pigmented – Plastics/Metal	Over Print Varnish	Inks	Non Yellowing	Synergist needed	Remarks
ADDITOL® BCPK	Benzophenone/1-hydroxy-cyclohexylphenyl-ketone (1/1 ratio)	L	X	C	X	C	X	C	X		Liquid photoinitiator blend (1 to 1) of ADDITOL BP and ADDITOL CPK, good surface cure with amine synergist
ADDITOL BDK	2,2-Dimethoxy-1,2-diphenylethan-1-one	S	X	C	X	C	C	C			Multipurpose photoinitiator
ADDITOL BP	Benzophenone	S	X	C	X	C	X	C		X	Multipurpose photoinitiator, good surface cure with amine synergist
ADDITOL CPK	1-Hydroxy-cyclohexylphenyl-ketone	S	X	C	X	C	X		X		Non-yellowing systems
ADDITOL DX	Liquid photoinitiator blend	L		C		C		X			Effective in flexo, litho and screen inks, especially darker colored inks
ADDITOL HDMAP	2-Hydroxy-2-methyl-1-phenyl-propanone	L	X	C	X	C	C	C	C		Multipurpose photoinitiator
ADDITOL ITX	Isopropyl thioxanthone (2-and 4-isomer mixture)	S		X		X		X		X	Curing of pigmented systems (other than white)
ADDITOL LX	Liquid photoinitiator blend	L		C		C		X	X		Effective in flexo, litho and screen inks, especially lighter colored inks
ADDITOL TPO	2,4,6-Trimethylbenzoyl diphenyl phosphine oxide	S		X	X	X		C	X		Efficient cure of white pigmented and thick clear coatings
EBECRYL P39	Polymeric benzophenone derivative	L					X	X		X	Inks and coatings with very low residual odor. Use in replace of benzophenone
EBECRYL P104	Acrylated amine synergist	L	C		C	C	X	C			Improved stability, reduced odor, low viscosity
EBECRYL P115	Copolymerizable amine synergist	L	C		C	C	X	C			Improved stability, reduced odor, increased reactivity
EBECRYL 7100	Acrylated amine synergist	L	C		C	C	X	C			Improved stability, reduced odor, increased adhesion
MDEA	Methyldiethanolamine	L	C	C	C	C	X	C			In combination with ADDITOL BP, provides good surface cure, low cost

L = liquid S = solid X = highly recommended C = used in combination

* ADDITOL® additives and photoinitiators

* EBECRYL® energy curable acrylates

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Acid value	Expressed in mg KOH per gram. For some materials, acid value is reported as weight % acrylic acid. Note: acid value x 0.128 = % acrylic acid acid value x 0.1497 = % methacrylic acid
Color	Average values in Gardner, Pt-Co (APHA), or iodine scales. <ul style="list-style-type: none">• Gardner - range from light yellow to red defined by the chromaticities of glass standards numbered from 1 for the lightest to 18 for the darkest.• Pt-Co – defined by specified dilutions of a platinum-cobalt stock solution, ranging from 0 at the light end of the scale to 500 at the darkest.• Iodine – ranges from yellow to brown defined by specified dilutions of an iodine solution, ranging from 1 for the lightest color to 500 for the darkest. For colors registering 1 or less on the Iodine scale, the Platinum-Cobalt Units are applicable.
Density	Mass per unit of volume at 25°C, expressed in grams per milliliter.
Elongation	Average elongation (strain) at break expressed as the percent change in the gage length, measured on the UV cured homopolymer of the product.
Functionality	Theoretical number of acrylate double bonds per molecule.
MFFT	Minimum film formation temperature. The temperature at which a continuous film is formed after the evaporation of volatile materials from a dispersion or emulsion.
Molecular weight	The calculated weight based on the theoretical chemical composition.
Particle size	The mean size of the particles in dispersion, reported in microns.
pH	The measure of the acidity or alkalinity of an aqueous product. Numerically equal to 7 for neutral, pH increases with alkalinity and decreases with acidity over a range of 0-14.
Solids	The amount, expressed in percent, of the non-volatile material remaining from a solution or dispersion when heated at a specified time and temperature.
Tensile Strength	Average stress in pounds per square inch at break, measured on the UV cured homopolymer of the product.
Tg	Glass transition temperature in °C of the UV cured homopolymer of the product as measured by dynamic mechanical analysis (DMA).
Viscosity	Viscosity in centipoise (cP) or poise (P) measured at 25°C and at the sales specification temperature if other than 25°C. cP = mPa•s.
Weight per Amine	Average molecular weight per amine group.
Young's Modulus	Also known as elastic modulus; the force required to elongate a material and calculated from the ratio of stress to strain. It is indicative of the stiffness or rigidity of a material. Measured on the UV cured homopolymer of the product.

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