Energy curable resins for inks and coatings.

covestro

Building a circular future, together

At Covestro, we use our unique skills in material solutions to make the world a brighter place. We create solutions that nourish, protect, and improve the performance of millions of products all over the globe. At the same time, our solutions contribute to a more circular world. This is reflected in our approach to the Energy Curable Industry.

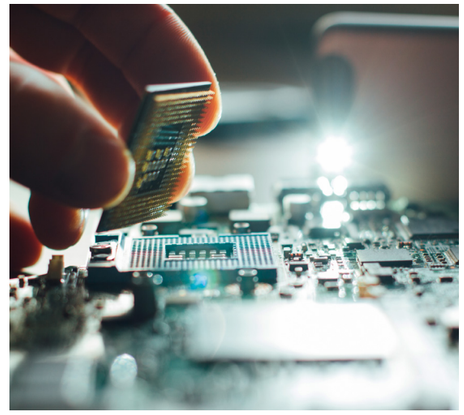
Leading the way
The demand for more circular solutions is rising at a faster pace than ever before as the world collectively strives to tackle today's global challenges. Climate change, population growth, urbanization, digitalization and mobility are pushing players from every sector to find more sustainable solutions and lay the foundations for climate neutrality by driving a Circular Economy. The challenge is not only to create these circular solutions but also to maintain quality, durability and productivity.

Drive to push boundaries to what is possible
Innovation is key to satisfying these demands and creating added value for customers, society and the environment by turning targets into realities. At Covestro, our long-standing expertise in aliphatic and aromatic polyisocyanates and more sustainable resins goes hand in hand with our purpose to constantly push boundaries in the search for future-oriented solutions. Through joint solutions, alternative raw materials, innovative recycling, and harnessing renewable energy, we're enabling coatings and adhesives producers to meet the circular challenge, here and now.

Our portfolio
We're expanding our portfolio to include bio-based or recycled raw materials in coatings, adhesives, and specialty areas from cosmetics to textiles to 3D printing. Thanks to our mass balancing approach, we're helping close the loop by gradually replacing fossil fuels with ISCC-certified renewable resources. Our drop-in solutions ensure the high quality, consistent performance and easy processing that keep your production running smoothly. And we're constantly working to provide the global support, facilities and supply chain security you need to forge yet more circular innovations in infrastructure, automotive, furniture and more.

Energy curable resins
Our broad portfolio of Energy Curable Resins consists of monomers, epoxy and polyester acrylates, acrylated and solid acrylics and amine acrylates. All products are sold under the **AgiSyn™, NeoRad™** product ranges. The energy curable technology is used in many industrial applications. Nevertheless, it is a technology which still has many opportunities for innovation, not only to improve the performance in existing application areas, but also to take it to new markets.

Material solutions can help turn circular targets into realities. Let's make the world a brighter place, together.



Aliphatic urethane acrylates

Of all the acrylate resins, urethane acrylates possess best balance between hardness, toughness, flexibility, chemical resistance and abrasion resistance. Due to their resistance to weathering and low yellowing, aliphatic urethane acrylates are preferred over aromatic urethane acrylates in high-end applications.

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	HYDROXYL VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 230A2	Aliphatic urethane acrylate	6	1,000	90–120	<2	35	<2	35		Good scratch resistance with excellent adhesion to various industrial plastics.	●●●	●●●●	●	●●●●	●●●●	✓	✓	✓	✓
AgiSyn™ 230A4	Aliphatic urethane acrylate	6	1,000	15-23	<2	33	<2			Low viscosity, high hardness and scratch resistance	●●●	●●●●	●	●●●●	●●●	✓	-	✓	✓
AgiSyn™ 230S1-A85	Aliphatic urethane acrylate diluted with 15% TPGDA	2	1,200	60-80	<2	<10	<2	33		Good outdoor resistance	●●	●●	●●●	●	●●	-	-	✓	✓
AgiSyn™ 230S1-B85	Aliphatic urethane acrylate diluted with 15% HDDA	2	1,200	30–50	<2	<10	<2	33		Excellent outdoor resistance	●●	●●	●●●	●	●●	-	-	✓	✓
AgiSyn™ 230T1	Aliphatic urethane acrylate	2	1,500	55–75	<2	<10	<2	-25		Good flexibility, wear resistance and toughness.	●●	●	●●●	●	●●	✓	✓	✓	✓
AgiSyn™ 242	Aliphatic urethane acrylate	8	1,000	30–50	<2		<2			Very high scratch resistance providing excellent adhesion to various industrial plastics.	●●●	●●●●	●	●●●●	●●●●	✓	-	✓	✓
AgiSyn™ 2421	Aliphatic urethane acrylate	8	1,300	37–83	<1	<10	<1			Excellent steelwool resistance and excellent adhesion to various industrial plastics.	●●●	●●●●	●●	●●●●	●●●●	✓	-	✓	✓
AgiSyn™ 2423	Aliphatic urethane acrylate	10	1,300	35-80	<1	<10	<1			Excellent steelwool scratch resistance, high cure response with good adhesion to a wide variety of industrial plastics.	●●●	●●●●	●●	●●●●	●●●●	-	-	✓	✓
AgiSyn™ 530	Aliphatic urethane acrylate diluted with 25% butyl acetate	6	1,000	2–4	<2	27	<2			Easy-To-Matt resin offering easy gloss reduction for solvent based spray coatings.	●●●	●●●	●	●●●	●●●	✓	-	-	✓
NeoRad™ U-10-15H	Aliphatic urethane acrylate diluted with 15% HDDA	3	2,000	37.5–50.0	<1	<10	<2	14		General purpose resin exhibiting good alkaline resistance.	●●	●●	●●●	●●	●●	✓	✓	✓	✓
NeoRad™ U-10-15T	Aliphatic urethane acrylate diluted with 15% TPGDA	3	2,000	115–150	<1	<10	<2	12		General purpose resin exhibiting good alkaline resistance.	●●	●●	●●●	●	●●	✓	✓	✓	✓
NeoRad™ U-20-12H	Aliphatic urethane acrylate diluted with 12% HDDA	2	1,200	1.9–2.3 (60°C)	<1	<10	<1	20		Excellent outdoor resistance and low yellowing.	●●	●●	●●●	●	●●	✓	✓	✓	✓
NeoRad™ U-24-25Z	Aliphatic urethane acrylate diluted with 25% HEMA	2	1,300	6–14	<1	110	<1			Very high toughness, excellent elongation and low shrinkage.	●●●	●●	●●●	●	●●	✓	✓	✓	✓
NeoRad™ U-25-20D	Aliphatic urethane acrylate diluted with 20% DPGDA	2	1,300	20–30	<1	<10	<1	18		High reactivity, excellent flexibility, good scratch and abrasion resistance.	●●	●●	●●●	●	●●●	✓	✓	✓	✓
NeoRad™ U-6282	Aliphatic urethane acrylate	2	1,200	0.25–0.45	<2	<10	<2	19		Low yellowing Easy-To-Matt resin offering easy gloss reduction. Based on 35% renewable carbon content.	●●	●●	●●●	●	●●	✓	✓	✓	✓
NeoRad™ U-65	Aliphatic urethane acrylate diluted with DPGDA	6	1,700	20–30	<2		<2			Deep matt by excimer cure combined with high chemical and mechanical resistance, non yellowing and high reactivity	●●●	●●●●	●●	●●●	●●●●	-	-	✓	✓
NeoRad™ U-81	Aliphatic urethane acrylate	2	4,500	27–37	<2	<10	<1			Excellent adhesion to melamine papers and boards. High elasticity. Based on 25% renewable carbon content.	●●●	●●●●	●●	●●●	●●●●	-	-	✓	-

● Low ●● Moderate ●●● Good ●●●● Excellent

✓ Available
- Not available

Aromatic urethane acrylates

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	HYDROXYL VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 248	Aromatic urethane acrylate	3	900	0.05–0.10	<3	40	<6	19		An innovative Silky Feel resin to obtain matt overprint varnishes (OPV) for flexo and screen applications. Based on 45% renewable carbon content.	●●	●●	●●	●●	●●	✓	-	✓	✓
AgiSyn™ 271	Aromatic urethane acrylate	2	1,200	24-32 (60°C)	<2	<10	<1			High toughness resin for 3D printing with good reactivity and flexibility	●●●	●	●●●●	●	●●●	✓	✓	✓	✓
AgiSyn™ 670A2	Aromatic urethane acrylate	6	950	24.5–32.5	<2	40	<2	49		Good scratch resistance, excellent adhesion to various industrial plastics.	●●●	●●●●	●	●●●●	●●●●	✓	✓	✓	✓
AgiSyn™ 670T1	Aromatic urethane acrylate	2	1,600	270–330	<2	<10	<2	-24		Excellent wear resistance and toughness.	●●	●	●●●	●	●●	✓	✓	✓	✓
AgiSyn™ 670T1-D75	Aromatic urethane acrylate diluted with 25% DPGDA	2	1,600	5.5–7.5	<2	<10	<2	-26		Low viscosity, excellent wear resistance and toughness.	●●	●	●●●	●	●●	✓	✓	✓	✓
NeoRad™ U-60	Aromatic urethane acrylate	2	1,600	4.0–5.4 (60°C)	<1	<10	<2	-20		Excellent wear resistance and toughness.	●●	●	●●●	●	●●	✓	✓	✓	✓
NeoRad™ U-61	Aromatic urethane acrylate	2	1,200	1.2–1.6	<1	160	<2	25		Very high toughness, excellent elongation and low shrinkage. Good adhesion to various woods.	●●●	●●	●●●●	●●	●●	✓	✓	✓	✓

Polyester acrylates

By highly favorable cost-performance ratio and very wide selection of backbone building blocks, polyester acrylates are well suited for a high number of applications. They are available in a range of viscosities and cure speeds. Generally polyester acrylates exhibit moderate to high shrinkage but still provide a well-balanced elasticity.

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	HYDROXYL VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 705	Fatty acid modified polyester acrylate	4	1,300	100–220	<20		<20	-3		Excellent pigment grinding vehicle. Based on 35% renewable materials.	●	●●●	●●	●●	●●	✓	✓	✓	✓
AgiSyn™ 707	Polyester acrylate	4	470	200–300	<1		<2			Recommended for offset inks, high viscosity, low tack, low misting and good flow.	●●	●●	●●	●●	●●	✓	✓	✓	✓
AgiSyn™ 708	Polyester acrylate	2		35-60	<5		<2			Good pigment wetting & flow combined with good adhesion and reactivity	●●	●●	●●●	●●	●●	✓	✓	✓	✓
AgiSyn™ 709	Polyester acrylate	2		110-130	<5		<2			Chlorine free grinding vehicle with good lithographic performance for low migration inks.	●●	●●	●●●	●●	●●	✓	✓	✓	✓
AgiSyn™ 717	Fatty acid modified polyester acrylate	6	1,100	7-10	<15	30	<13			Low odour, low viscosity, low extractable, grinding, fast cure. Based on 45% renewable carbon content.	●●	●●●	●	●●●	●●	✓	-	✓	-
AgiSyn™ 720	Polyester acrylate	4	1,000	0.4–1.0	<20		<2	31		Very low viscosity, good silica wetting.	●●	●	●●	●	●●	✓	-	✓	✓
AgiSyn™ 730	Polyester acrylate	3	750	15–20	<5		<4	64		General purpose resin providing good stain resistance and silica wetting.	●●	●●●	●●●	●●●	●●	-	-	✓	✓
NeoRad™ P-11	Polyester acrylate	3	750	25–45 (23°C)	<20	40	<4	7		Excellent silica wetting and good wear resistance.	●●	●●●	●●●	●	●●●	✓	✓	✓	✓
NeoRad™ P-50	Polyester acrylate	4	1,100	1.5–2.1(23°C)	<10	55	<2			Low odour, low extractable and low viscous flexo pigment grinding vehicle with good adhesion to various plastic substrates. Based on 20% renewable carbon content.	●●●	●●	●●	●●	●●●●	✓	✓	✓	✓

● Low ●● Moderate ●●● Good ●●●● Excellent

✓ Available
- Not available

Epoxy acrylates

Epoxy acrylates are widely used in radiation curable formulations due to their cost-performance ratio combined with high reactivity. Cured coatings comprising of epoxy acrylates generally exhibit high gloss, high hardness and very high chemical resistance. The fatty acid modified epoxy acrylates provide some improved wetting and flexibility.

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	HYDROXYL VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 1010*	Bisphenol A epoxy acrylate	2	500	4–7 (60°C)	<2	220	<1	60		Multi purpose resin offering good mechanical properties.	●	●●●●	●	●●●●	●●●●	✓	✓	✓	✓
AgiSyn™ 1030*	Bisphenol A epoxy acrylate	2	500	11–21 (50°C)	<2	220	<1	60		Multi purpose resin offering good wear resistance.	●	●●●●	●	●●●●	●●●●	✓	✓	✓	✓
AgiSyn™ 1050*	Bisphenol A epoxy acrylate	2	500	2.0–4.5 (65°C)	<1	220	<3	60		Multi purpose resin with silica wetting.	●	●●●●	●	●●●●	●●●●	✓	✓	✓	✓

Modified epoxy acrylates

DESCRIPTION		MOLECULAR WEIGHT THEORETICAL VALUE	ACID VALUE mg KOH per gram	COLOR GARDNER	FEATURES	CHEMICAL RESISTANCE	HARDNESS	USA	CA	EU	CHINA
AgiSyn™ 2020	Epoxidised soya oil acrylate	1,100	<5	<7	General purpose resin with excellent pigment wetting properties. Based on 75% renewable carbon content.	●●	●●	✓	✓	✓	✓
AgiSyn™ 3020-A80	Modified epoxy acrylate diluted with 20% TPGDA	1,200	<5	<2	Tough epoxy acrylate exhibiting excellent metallization acceptation.	●●●	●●●	✓	-	-	-
AgiSyn™ 3050	Modified epoxy acrylate	1,000	<5	<4	Tough epoxy acrylate offering excellent pigment wetting.	●●●	●●●●	✓	-	-	-
AgiSyn™ 6050TF	Amine modified epoxy acrylate	500	<1	<1	Very fast curing epoxy acrylate to be used for Toluene Free applications.	●●●●	●●●●	✓	✓	✓	✓
NeoRad™ E-20	Fatty acid modified epoxy acrylate	550	<3	<3	Multi purpose resin offering good pigment wetting.	●●●●	●●●●	✓	✓	-	✓

* **AgiSyn™ 1010, AgiSyn™ 1030** and **AgiSyn™ 1050** are also available in diluting acrylates. Please contact your local account manager.

● Low ●● Moderate ●●● Good ●●●● Excellent

✓ Available
- Not available

Acrylics

Acrylics provide reduced shrink to a coating and achieve improved adhesion. Additionally depending on chemistry and use acrylics provide hardness and flexibility to an energy curable coating system. Inert acrylics are available as a solid material (also known as beads) and as a liquid in diluting acrylates.

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	HYDROXYL VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 260-AB50	Acrylic copolymer diluted with TPGDA & HDDA	Inert	42,000	14–21	<1	30	<3	30		Resin for primers and white basecoats offering excellent adhesion to difficult substrates.	●●●	●	●●●	●●	●●	-	-	✓	✓
AgiSyn™ 268-B70	Acrylic copolymer diluted with HDDA	Inert	35,000	3–5	<1		<3	51		Low viscosity resin for primers and white basecoats offering excellent adhesion to difficult substrates.	●●●●	●	●●●	●	●	-	-	✓	✓
NeoCryl® B-300	Solid methacrylic copolymer	Inert	15,000	0.7–1.3*	<1	<1	White powder	45		Low viscosity when dissolved in diluting acrylates, good scratch resistance.	●●●●	●	●●	●●	●	✓	✓	✓	✓
NeoCryl® B-302	Solid methacrylic copolymer	Inert	5,000	0.4–0.8*	4	<1	White powder	80		Low viscosity when dissolved in diluting acrylates, high Tg. Based on 30% renewable carbon content.	●●●●	●●	●●	●●	●	✓	✓	✓	✓
NeoRad™ A-20	Acrylated acrylic diluted with 50% with butyl acetate	20	30,000	0.5–1.0 (23°C)	<15	150	<4	42		Suitable for for dual cure. Good outdoor durable and excellent anti-sagging properties.	●●	●●●	●	●●●	●●●	✓	✓	✓	✓

Amine modified acrylates

The typical combination of high cure speeds and overall balanced properties makes the amine modified acrylates unique. Often these resins are used to increase the cure speed without compromising on other coating characteristics.

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	AMINE VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 701	Amine modified polyether acrylate	4	1,000	2.5–3.5	<1	55–65	<2	50		Excellent reactivity, good wetting.	●●	●●	●●	●	●●●●	✓	✓	✓	✓
AgiSyn™ 703	Amine modified polyether acrylate	4	1,000	0.45–0.65	<1	35–45	<2	6		Low viscosity and high scratch resistance.	●●	●●	●●	●●	●●●●	✓	-	✓	✓
AgiSyn™ 703TF	Amine modified polyether acrylate	4	1,000	0.45–0.65	<1	35–45	<1	6		Toluene free version of **AgiSyn™ 703.**	●●	●●	●●	●●	●●●●	✓	-	✓	✓
NeoRad™ P-85	Amine modified	6	1,400	0.3-0.7 (23°C)	<10	10-15	<6	24		Good scratch resistance and good wetting.	●●	●●●	●	●●	●●●●	-	-	✓	✓

* 40% solution in HDDA

● Low ●● Moderate ●●● Good ●●●● Excellent

✓ Available

- Not available

Amine synergists

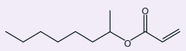
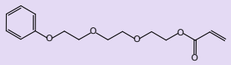
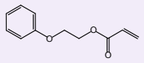
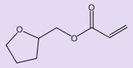
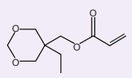
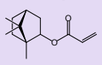
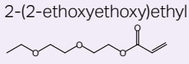
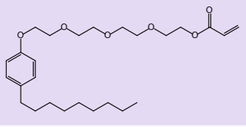
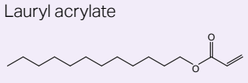
Amine synergists are co-initiators which enhance the reactivity of UV curable systems. Best performance is achieved when combined with Norrish type II initiators. The acrylate functionality ensures this type of synergist is being incorporated in the final coating structure.

DESCRIPTION		FUNCTIONALITY THEORETICAL VALUE	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY PA.S AT 25°C	ACID VALUE mg KOH per gram	AMINE VALUE mg KOH per gram	COLOR GARDNER	Tg °C		FEATURES	ADHESION	CHEMICAL RESISTANCE	FLEXIBILITY	HARDNESS	REACTIVITY	USA	CA	EU	CHINA
AgiSyn™ 002	Functionalised amine synergist	1	400	0.01–0.03	<1	190–210	<2	11		Multi purpose synergist offering very high reactivity.	●	●●	●	●	●●●●	✓	✓	✓	✓
AgiSyn™ 003	Functionalised amine synergist	1	500	3.0–4.5	<1	250–270	<6	17		Highest amine content and excellent reactivity booster.	●	●	●	●	●●●●	✓	-	-	-
AgiSyn™ 008	Functionalised amine synergist	2	800	0.5–1.5	<1	120–150	<2	13		High reactivity and good adhesion.	●●	●●	●	●	●●●●	✓	✓	✓	✓
AgiSyn™ 008TF	Functionalised amine synergist	2	800	0.5–1.5	<1	120–150	<2	13		Toluene free version of **AgiSyn™ 008.**	●●	●●	●	●	●●●●	✓	✓	✓	✓

● Low ●● Moderate ●●● Good ●●●● Excellent

✓ Available
- Not available

Mono-functional diluting acrylates

	DESCRIPTION	CAS NUMBER	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY MPA.S AT 25°C	ACID VALUE mg KOH per gram		COLOR APHA	STABILIZER ppm MeHQ	REFRACTIVE INDEX	Tg °C	FEATURES	TOLUENE FREE	USA	CA	EU	CHINA
AgiSyn™ 2820	1-methylheptyl acrylate 	42928-85-8	184	1-3	<0.2		<100	100-200			- 74% renewable carbon content - Excellent flexibility - Good adhesion	1)	✓	-	✓	-
AgiSyn™ 2822	Ethoxylated (2) 2-Phenoxy ethyl acrylate 	56641-05-5	236	12–22	<0.5		<60	400-800	1.505	-45	- Strong dilution effect - Low shrinkage - Excellent adhesion (various plastics and metals) - High refractive index	1)	✓	✓	-	✓
AgiSyn™ 2832	2-Phenoxy ethyl acrylate 	48145-04-6	192	5–15	<0.5		<60	200-600	1.515	7	- Strong dilution effect - Low shrinkage - Excellent adhesion (various plastics and metals) - High refractive index	1)	✓	✓	✓	✓
AgiSyn™ 2839	Tetrahydrofurfuryl acrylate 	2399-48-6	156	3-12	<0.5		<80	400-800			- Good diluting power - Good adhesion - Good flexibility	1)	✓	-	-	✓
AgiSyn™ 2852	Cyclic trimethylpropane formal acrylate 	66492-51-1	200	15-20	<0.5		<200	100-200	1.467	40	- Low odour - Excellent adhesion (various plastics and metals) - Good abrasion and chemical resistance		✓	✓	-	✓
AgiSyn™ 2870	Isobornyl acrylate 	5888-33-5	208	5–15	<0.1		<30	90-275	1.474	80	- 79% renewable carbon content - High Tg and good flexibility - Excellent adhesion to a variety of substrates - Good outdoor resistance		✓	✓	✓	✓
AgiSyn™ 2880	2-(2-ethoxyethoxy)ethyl acrylate 	7328-17-8	188	3–8	<0.5		<60	200-600	1.435	-53	- High flexibility - Good adhesion - Strong dilution effect	1)	✓	✓	✓	✓
AgiSyn™ 2895	Ethoxylated (4) nonylphenol acrylate 	50974-47-5	450	103–117	<0.1		<150	800-1300	1.493	-28	- Excellent adhesion properties - Excellent dilution effect - High cure response	1)	✓	-	✓	✓
AgiSyn™ 2896	Lauryl acrylate 	2156-97-0	240	4–10	<0.5		<30	100-200	1.444	-28	- 80% renewable carbon content - Low surface tension - Good adhesion	1)	✓	✓	✓	✓

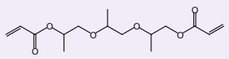
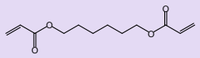
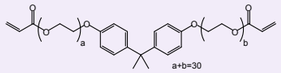
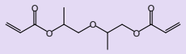
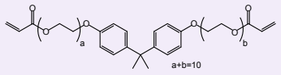
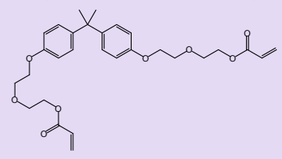
1) Also available as Toluene Free version (TF grade)

2) Also available as High Purity version (P grade)

✓ Available

- Not available

Di-functional diluting acrylates

	DESCRIPTION	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY MPA.S AT 25°C	ACID VALUE mg KOH per gram		COLOR APHA	STABILIZER ppm MeHQ	REFRACTIVE INDEX	Tg °C	FEATURES	USA	CA	EU	CHINA
AgiSyn™ 2815	Tripropyleneglycol diacrylate 	300	10–18	<0.1		<100	200–1,000	1.450	64	- Multi purpose acrylate - Good dilution effect	✓	✓	✓	✓
AgiSyn™ 2816	1.6-Hexanediol diacrylate 	226	5–10	<0.1		<60	100–300	1.457	41	- Multi purpose acrylate - Excellent adhesion to plastics - Strong dilution effect - Good outdoor resistance	✓	✓	✓	✓
AgiSyn™ 2823	Ethoxylated (30) bisphenol A diacrylate 	1,672	700–1,000	<0.2		<200	100–300			- Good flexibility resistance - Good heat resistance - Good pigment wetting	✓	✓	✓	✓
AgiSyn™ 2833	Dipropyleneglycol diacrylate 	242	7–13	<0.5		<40	400–800	1.449	96	- Multi purpose acrylate - Good dilution effect - High Tg	✓	✓	✓	✓
AgiSyn™ 2873	Ethoxylated (10) bisphenol A diacrylate 	777	0.6-0.8	<0.1		<100	100–300	1.514	2	- Good chemical resistance - Good flexibility - Good heat resistance - Low shrinkage	✓	✓	✓	✓
AgiSyn™ 2881	Ethoxylated (4) bisphenol A diacrylate 	512	1,000–1,300	<0.5		<100	200–800	1.538	63	- Good chemical resistance - Good heat resistance - Good pigment wetting	✓	✓	✓	✓

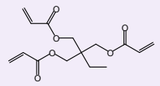
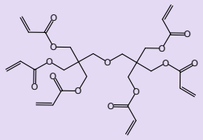
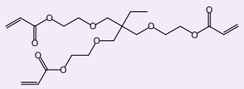
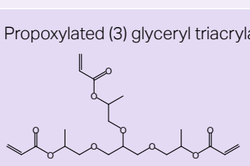
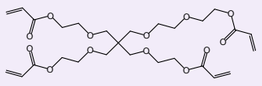
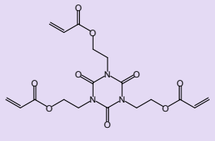
1) Also available as Toluene Free version (TF grade)

2) Also available as High Purity version (P grade)

✓ Available

- Not available

Multi-functional diluting acrylates

	DESCRIPTION	MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY MPA.S AT 25°C	ACID VALUE mg KOH per gram		COLOR APHA	STABILIZER ppm MeHQ	REFRACTIVE INDEX	Tg °C	FEATURES	TOLUENE FREE	HIGH PURITY	USA	CA	EU	CHINA
AgiSyn™ 2811	Trimethylolpropane triacrylate 	296	70–120	<0.1		<60	100–300	1.474	64	- Multi purpose acrylate - High reactivity			✓	✓	✓	✓
AgiSyn™ 2830L	Dipentaerythritol hexaacrylate 	578	4,000–7,000	<0.5		<100	300–900	1.496	94	- Very high reactivity - High crosslink density - Excellent scratch resistance - Excellent chemical resistance		2)	✓	-	✓	✓
AgiSyn™ 2836	Ethoxylated (3) trimethylolpropane triacrylate 	428	40–80	<0.2		<60	250–500	1.471	37	- Multi purpose acrylate - Good reactivity - Good chemical resistance		2)	✓	✓	✓	✓
AgiSyn™ 2837	Propoxylated (3) glyceryl triacrylate 	428	70–100	<0.5		<100	200–500	1.461	33	- Multi purpose acrylate - Excellent wetting - Good reactivity		2)	✓	✓	✓	✓
AgiSyn™ 2844	Ethoxylated (5) pentaerythritol tertraacrylate 	550	100–200	<1.0		<60	200–600	1.475	-33	- High reactivity - Good scratch resistance - Good solvent resistance		2)	✓	-	✓	✓
AgiSyn™ 2851S	Tris (2-hydroxy ethyl) isocyanurate triacrylate 	423	Wax	<1.0		<100	300–1,200	1.465	247	- Extremely high Tg - Excellent abrasion resistance - Very good heat resistance - High reactivity			✓	✓	-	✓

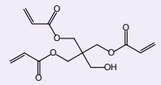
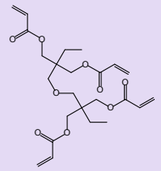
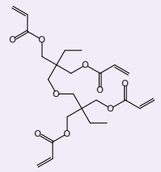
1) Also available as Toluene Free version (TF grade)

2) Also available as High Purity version (P grade)

✓ Available

- Not available

Multi-functional diluting acrylates

DESCRIPTION		MOLECULAR WEIGHT THEORETICAL VALUE	VISCOSITY MPA.S AT 25°C	ACID VALUE mg KOH per gram		COLOR APHA	STABILIZER ppm MeHQ	REFRACTIVE INDEX	Tg °C	FEATURES	TOLUENE FREE	HIGH PURITY	USA	CA	EU	CHINA
AgiSyn™ 2884	Mixture of Pentaerythritol tri- and tetraacrylate 	298	650–1,200	<1.0		<100	300–990	1.484	100	- Hydroxyl functional acrylate (typical OH value = 125mg KOH/g) - High reactivity - Good adhesion			✓	✓	✓	✓
AgiSyn™ 2887E	Di-trimethylolpropane tetraacrylate 	466	400–700	<0.5		<100	400–600	1.475	98	- Fast cure response - Excellent chemical resistance - Good hardness	1)		✓	✓	-	✓
AgiSyn™ 2887HV-TF	Di-trimethylolpropane tetraacrylate 	482	750–850	<0.5		<50	200–600	1.475	96	- High viscous grade of **AgiSyn™ 2887E**	1)		✓	✓	✓	✓

1) Also available as Toluene Free version (TF grade)
2) Also available as High Purity version (P grade)

✓ Available
- Not available

UVR biobased portfolio

Biobased materials are manufactured from renewable sources, natural plant-based sources. The natural carbon (C14) can be measured and quantified versus fossil based carbon (C12). All biobased content in our acrylate resin and diluent products comes from natural sources, which is backed up by certified external analysis. The biobased carbon content is noted as a percentage of total carbon content, not as weight percentage of the total commercial product. More detailed product information can be found on the previous pages.

	DESCRIPTION	BIOBASED CARBON CONTENT	FEATURES		USA	CA	EU	CHINA
AgiSyn™ 2020	Epoxidized soya oil acrylate	**83%**	General purpose resin with excellent wetting properties.		✓	✓	✓	✓
AgiSyn™ 2896	Lauryl acrylate	**80%**	Low surface tension Good adhesion		✓	✓	✓	✓
AgiSyn™ 2870	Iso bornyl acrylate	**79%**	High Tg and good flexibility Excellent adhesion to a variety of substrates Good outdoor resistance		✓	✓	✓	✓
AgiSyn™ 2820	2-Octyl acrylate	**74%**	Low surface tension Good adhesion		✓	-	✓	-
AgiSyn™ 705	Fatty acid modified polyester acrylate	**56%**	Excellent pigment grinding vehicle.		✓	✓	✓	✓
AgiSyn™ 248	Silky feel urethane acrylate	**45%**	An innovative, Silky feel, resin to obtain matt overprint varnishes (OPV) for flexo and screen printing.		✓	-	✓	✓
AgiSyn™ 717	Fatty acid modified polyester acrylate	**44%**	Low odour, low extractable and low viscous grinding resin.		✓	-	✓	-
NeoRad™ U-6282	Easy-To-Matt urethane acrylate	**38%**	Low yellowing Easy-To-Matt resin offering easy gloss reduction.		✓	✓	✓	✓
NeoCryl® B-302	Solid methacrylic copolymer [inert]	**32%**	Low viscosity when dissolved in diluting acrylate, high Tg.		✓	✓	✓	✓
NeoRad™ U-81	Aliphatic urethane acrylate	**26%**	Excellent adhesion to melamine paper and very high elasticity.		-	-	✓	-
AgiSyn™ 720	Polyester acrylate	**15%**	Very low viscosity, good silica wetting.		✓	-	✓	✓
AgiSyn™ 2837	Propoxylated glyceryl triacrylate	**14%**	Multi purpose acrylate Excellent wetting Good reactivity		✓	✓	✓	✓
NeoRad™ P-50	Polyester acrylate	**13%**	Very low viscosity, good silica wetting.		✓	✓	✓	✓
AgiSyn™ 701	Amine modified acrylate	**13%**	Excellent reactivity, good wetting.		✓	✓	✓	✓
NeoRad™ E-20	Fatty acid modified bisphenol A epoxy acrylate	**12%**	Multi purpose resin offering good pigment wetting.		✓	✓	-	✓

✓ Available
- Not available

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Edition: November 2023 · Printed in The Netherlands