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Hycar® Acrylic Emulsions

Key: A = Anionic
A-N = Anionic/Nonionic

Hycar Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses
26843	-35	A	65	6.5	1.06	150		*	High solids textile coatings/adhesive, very soft, flexible, good wet tack. Exhibits good plasticizer resistance.
T-122	-30	A	48	3.2	1.05	30	*	*	Flock adhesive/backcoatings-excellent drape. Very good water and solvent resistance.
T-9202	-26	A	59	3.5	1.07	100	*		High solids textile coatings/adhesives. Blends with Hycar® T-9207.
26-1042	-25	A-N	50	3.5	1.06	200	*	*	Soft, solvent resistant, durable backcoatings.
26477	-20	A	48	5.7	1.07	125	*	*	Foamable backcoatings. Excellent water resistance. Fluorocarbon compatible.
26717	-20	A	43.5	8.5	1.06	100	*		Excellent mechanical stability, hydrophobic polymer. Medical, book cover, masking tape, wallpaper.
26479	-16	A	50	2.5	1.06	100	*	*	Foam/froth backcoatings, excellent durability to laundering/drycleaning, excellent cold flex.
26-1199	-15	A	49	3.7	1.06	550		*	Formaldehyde-free, soft binder; very hydrophobic.
26083	-15	A	52.5	6.0	1.07	55	*	*	Paper saturation or wet end addition.
26322	-15	A	50.5	4.5	1.06	40	*	*	High elongation, saturation or wet end addition.
26552	-15	A	47	4.5	1.05	110		*	Formaldehyde-free, hydrophobic polymer, highly redispersible in most processes until cured. Medical.
26-0202	-12	A	50	3.7	1.06	450	*	*	Self-crosslinking version of Hycar® 26-1199. Ultra-water resistant.
26092	-12	A	50	4.0	1.06	125	*	*	General purpose coatings/adhesives. Saturation and wet end addition. Excellent color/heat/light stability. Book cover.
2671	-11	A	53	5.0	1.07	170	*	*	General purpose coatings. Saturation or wet end addition. Foamable flock adhesives with excellent durability. Use in book covers, masking tape, wipes.
26120	-11	A	50	3.8	1.07	115	*		Binder, low crock, highly redispersible. Excellent heat stability. Saturation and wet end addition. Medical, book covers, wallpaper.
T-9207	-9	A	60	2.8	1.08	280	*		High solids textile coatings/adhesives. Blends with Hycar® T-9202.
26319	-8	A	49	6.3	1.10	150	*	*	Backcoatings with good durability. Non-self-thickening for ease of compounding.
26871	-7	A	52	5.7	1.07	250	*	*	Soft, hydrophobic acrylic co-polymer emulsion with excellent adhesion to many substrates. Water- and abrasion-resistance in foamed and non-foamed upholstery and flock applications.
26345	-6	A	50	3.6	1.07	20	*	*	Foam/froth backcoatings, excellent durability to laundering/dry cleaning, excellent cold flex. Paper saturation or wet end addition.
26-0912	-4	A	50	4.0	1.07	350	*	*	Soft, inherently flame retarding acrylic polymer.
2679	-3	A	49	3.7	1.06	100	*		Fabric laminating, backcoating, finishes. Good general purpose acrylic for saturation, book cover, filter paper.

Key: A = Anionic
A-N = Anionic/Nonionic

Hycar® Acrylic Emulsions

Hycar Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses	
FIRM	25796	0	A	46	5.0	1.07	120	-	-	Fabric laminating adhesive. Self thickening with ammonia. Good solvent resistance. Paper saturant.
	26084	+6	A	46	6.1	1.07	110	-	-	Heat seal adhesive with excellent solvent and plasticizer resistance. Paper coating.
	26349	+12	A	49	4.6	1.07	135	-	-	Extremely durable coatings/adhesives. Firm but flexible hand, book cover stock. Solvent and plasticizer resistant.
	26091	+20	A	50	6.8	1.16	30	-	-	Topcoatings with abrasion resistance, high gloss, and color stability. Drycleanable and washable.
	26288	+20	A	50	4.0	1.07	60	-	-	Heat sealable. FDA compliant direct food contact. Blends with Hycar® 26315.
	26-1265	+23	A	49	4.0	1.06	350	-	-	Ultra-water resistant. Formaldehyde-free.
STIFF	26138	+25	A	49	5.5	1.07	60	-	-	Fabric laminating topcoatings, anti-fray. Outstanding dryclean/laundry resistance. Paper coating/solvent resistant.
	26523	+27	A	42	5.0	1.05	20	-	-	Hydrophobic, excellent oil and solvent resistance for tape release coatings.
	26-1084	+27	A	40	4.0	1.06	80	-	-	Firm, excellent lightfastness, formaldehyde-free.
	26105	+29	A	50	5.0	1.05	80	-	-	Hand builder. Hydrophobic. Film former at 150°F. Saturant/paper coating.
	26348	+30	A	48.5	6.0	1.07	200	-	-	Hydrophobic, excellent oil and solvent resistance for tape release coatings.
	26450	+32	A	46	4.0	1.06	25	-	-	Fabric stiffener. High crosslink density. Paper saturant, oil resistant.
	26688	+32	A-N	49	3.5	1.06	150	-	-	Stiff, durable, UV resistant coatings.
	26172	+33	A	50	2.5	1.05	125	-	-	Hand builder, flame retarding finish (with salt). Blends with Hycar® 26171. Self-thickening.
	26391	+36	A	50	3.6	1.09	125	-	-	Platable window shades. Hand builder. Highly water resistant, very good color.
	26256	+46	A	50	2.5	1.09	140	-	-	Hand builder. Hard glossy topcoatings. Excellent color.
	26-1475	+50	A	50	4.0	1.06	350	-	-	Ultra-water resistant and stiff. Formaldehyde-free.
	26315	+55	A	49.5	2.1	1.07	36	-	-	Heat sealable. FDA compliant direct food contact. Blends with Hycar® 26288. Excellent water resistance.
	26459	+103	A	46.5	3.3	1.04	15	-	-	Crosslinkable polystyrene emulsion.

Key: A = Anionic
N = Nonionic

PrintRite® Nonionic Acrylic Emulsions

Acrylic Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses
594	-20	N	40.5	2.5	1.04	15	-	-	Binders for pigment printing of apparel, domestic goods, home furnishing fabrics and industrial fabrics. Suitable for pigment pad dyeing. Nonionic colloidal system offers versatility to other applications, e.g. coating and finishing.
595	-20	N	45	2.7	1.05	140	-	-	
2003	-20	N	40.5	2.5	1.05	40	-	-	Provides excellent fastness, high color value and an extremely soft hand. Works synergistically with Carbopo® thickeners, providing excellent stability and redispersibility characteristics.

Vycar® PVC Emulsions

Vycar Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses		
PVC-ACRYLIC COPOLYMER	590X20	-17	A	49	10.0	1.13	100	-	-	Flame retarding backcoatings with superior cost/performance vs. compounded acrylic. Vycar® 590X20 is phosphate plasticized.	
	FT9	-13	A	50	8.8	1.09	150	-	-		
	460X46	+7	A	49	5.0	1.09	40	-	-		
	460X119	+37	A	48.0	7.0	1.12	40	-	-	Develops excellent cure, even at lower temperatures, with or without catalyst. Offers excellent water and chemical resistance, a range of firmness and contributes to flame retardance. It can be used for lamination, heat sealing and general saturation or spray bond.	
	460X49	+40	N	50	5.0	1.13	20	-	-	Exceptional mechanical stability. For spraying, padding, printing, coating, etc. Excellent water and chemical resistance. Heat sealable.	
	TN-816	+47	A	48.5	5.5	1.13	15	-	-	Stiff, flame retarding, formaldehyde-free, heat sealable. Water resistant emulsion for coating, saturation or spray bond.	
	G-27	+47	A	48.5	5.5	1.13	15	-	-	UF modifier to improve tensile and tear in glass substrate for building and industrial materials.	
	TN-810	+55	A	52	8.5	1.16	20	-	-	Incorporates latent reactivity which enables an impregnated fabric to be dried, shaped, and subsequently thermoset. Resulting structures exhibit excellent shape retention at elevated temperatures and under load. Formaldehyde-free. Stiff thermoplastic binder. Excellent color.	
	SPECIAL COPOLYMER	460X63	+22	A	49.5	6.0	1.12	20	-	-	Flame retarding coatings for carpeting and furnishing fabrics, including commercial installations. Polymer system provides unique combination of low flame response/low smoke.
		460X58	+40	A	49.5	6.0	1.13	20	-	-	

Key: A = Anionic
A-N = Anionic / Nonionic
N = Nonionic

Vycar® PVC Emulsions

Vycar Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses
VINYLIDENE CHLORIDE COPOLYMER	650X27	-4	A	50	4.5	1.21	70	*	Soft, flame retarding, for backcoatings, formaldehyde-free. Moisture vapor barrier coating.
	660X14	+7	A	49	6.0	1.23	50	*	Special flame retardant coatings. Low MVTR.
	Permax® 803	MFFT* is 9°C	A	58.5	1.7	1.21	50	*	VDC acrylic copolymer which provides exceptionally low MVTR. For excellent corrosion and humidity resistance. Recommended for maintenance primers, automotive under hood/under body coatings. MVT barrier coatings and rust conversion coatings. Can be blended with Carboset® CR-760 for specific end-use properties.
PVC COPOLYMER	351	+62	A	57	10.3	1.16	20		Product family offers excellent wash/wear resistance, chemical resistance, firmness, flame retardance and formaldehyde-free. Polymers can be used as-is or with various plasticizer levels to control firmness. Useful as saturant spray or coating.
	352	+69	A	57	10.3	1.16	20		
	480X104	+70	A	55	8.0	1.17	15	*	Economical, stiff, flame retarding, formaldehyde-free. Moldable binder for paper saturation and fiber treatment.
	480X95	+73	A	51	5.0	1.15	20	*	Excellent color and mechanical stability; salt stable. Can be used for lamination, heat sealing and general saturation or spray bond. Flame retarding.
PLASTICIZED PVC	580X182	-14	A	56.5	10.0	1.10	30		Phthalate plasticized. Adhesives/coatings for vinyl. Dielectric or hot bar heat sealable. Yarn sizing. Exhibit low smoke and very low fogging tendencies (SAE test method).
	580X180	-12	A	55	10.0	1.14	40		
	578	+11	A	56.5	10.0	1.12	40		
	580X83	+17	A	56	10.0	1.14	30		Flame retarding finishes for saturation or coating of cellulose and synthetic fibers. Phosphate plasticized. Vycar® 577 will act as dielectric and hot-bar sealable adhesive.
	577	+19	A	56	10.3	1.09	17		
	590X4	+20	A	53	6.0	1.13	20	*	
575x43	+29	A	55.5	10.4	1.16	20			

Vycar® Vinyl Acetate Emulsions

Vycar Emulsion	Tg (°C)	Charge	% Solids	pH	Viscosity (cP)	Description/Suggested Uses
VA-0450	+32	A-N	45	3.8	<400	Self-crosslinking; provides hardness, strength and durability. Nonwoven binder.
VA-0823	+32	A-N	50	5.5	<400	Formaldehyde-free; provides hardness, strength and durability.
VA-1022	+32	N	56	5.0	1300	General purpose polymer, good water resistance. HEC stabilized.

Key: SA = Synthetic Anionic

Stycar® Styrene-Butadiene Emulsions

Stycar Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses
STYRENE-BUTADIENE EMULSION	SB-1166	-23	SA	52	8.5	1.00	400	*	Soft, self-crosslinking. Textile coatings, nonwoven binder and paper saturant.
	SB-1177	-6	SA	50	5.5	1.00	400	*	Medium-soft formaldehyde-free, highly carboxylated.
	SB-0738	+7	SA	53	9.0	1.01	400	*	Firm, formaldehyde-free. Carpet and textile coatings, nonwoven binder.
	SB-1170	+17	SA	53	7.5	1.02	400	*	Firm, formaldehyde-free, very low VOC. Carpet backing, paper and nonwoven binder.
	SB-0706	+20	SA	52	8.5	1.02	400	*	Firm, self-crosslinking. Paper and nonwoven binder, coatings.
	SB-1459	+43	SA	52	8.0	1.04	150	*	Firm, moldable, water resistant.
SPECIALTY SB	1780	-24	SA	48	9.0	1.00	20	*	Paper saturant and soft general purpose binder with excellent plasticizer- and solvent-resistance.
	1795	+33	A	48	9.0	1.00	<300	*	Polymer with firm hand that can be used in textile applications, hand modifiers, non-woven, paper and fabric back coating. Excellent mechanical stability and compatibility. Formaldehyde-free.

Key: A = Anionic
N = Nonionic

HyStretch® Elastomeric Emulsions

HyStretch Emulsion	Tg (°C)	Charge	% Solids	pH	Specific Gravity	Viscosity (cP)	Heat Reactive	Carboxylated	Description/Suggested Uses
V-60	-60	A	50	8.0	1.01	40	*	*	Ultra-soft, hydrophobic, slightly tacky. Anti-skid coatings. Tack is non-migratory, will not transfer.
V-43	-43	A	50	8.5	1.03	200	*	*	Very soft and elastic. Backcoatings, anti-pill, nonwoven and paper saturant.
V-43 FDA	-43	A	50	8.5	1.03	200	*	*	Version of HyStretch® V-43 with FDA compliance for food contact.
V-43 FF	-43	A	50	8.5	1.03	200	*	*	Formaldehyde-free version of V-43.
V-29	-29	A	49	8.0	1.04	70	*	*	Soft and elastic. Solvent resistant. Outdoor fabric coatings with excellent UV stability, dirt resistance, and low temperature flexibility.

HyStretch elastomer emulsions are a Lubrizol breakthrough; patented technology which yields a unique combination of polymer properties. They are as elastic as natural rubber, yet as heat and light stable as synthetic acrylics. Creative formulators have discovered new innovative applications based on HyStretch emulsions.

Sancure® Polyurethane Polymers

Product	%solids	pH	Viscosity (cps)	Cosolvent (%NMP)	100% Modulus (psi)	Tensile Strength (psi)	Elongation at Break (%)	Description/Suggested Uses
Sancure 1300	35	9	200	8.3	4100(28.26)	5000(34.47)	200	Forms a tough, clear UV resistant coating. Blendable with Sancure® 1300 to obtain desired hardness.
Sancure 1301	40	9	150	9.8	1700(11.72)	4000(27.58)	320	Softer version of Sancure® 1300. Good adhesion to a variety of substrates.
Sancure 1823	35	9	100	8.4	4500(31.03)	6100(42.06)	210	Designed for use with high speed buffing machines. Excellent black heel mark and powdering resistance.
Sancure 1828	35	8	500	8.5	4900(33.78)	5200(35.85)	150	Compatible with a variety of acrylics. Has excellent burnishing resistance.
Sancure 2104	33	9	450	8	70(0.48)	100(0.69)	1200	Very soft aliphatic urethane which exhibits pressure sensitive properties. Used as a laminating adhesive.
Sancure 2255	49	8	1500	8.5	700(4.83)	3300(22.75)	550	High solids, rapid drying, soft aliphatic urethane. For use in high build coatings.
Sancure 2710	40	8	1000	0	650(4.48)	2600(17.92)	580	Co-solvent free, soft flexible aliphatic urethane. Good balance of hardness and flexibility. Hydrolytically stable.
Sancure 2720	35	8	100	2.1	1500(10.34)	4800(33.09)	450	Low co-solvent medium hard aliphatic polyester urethane. For use in wood, metal and plastic coatings.
Sancure 2725	35	8	100	2.3	3700(25.51)	6400(44.13)	270	Harder version of Sancure® 2720. For use in wood, concrete and plastic coatings.
Sancure AU4025	39	7.5	500	2.9	NA	NA	NA	An aliphatic polyurethane-acrylic hybrid for high performance, clear, water-white wood floor finishes.
Sancure AU4055	40	7.5	500	0.7	NA	NA	NA	An aliphatic polyurethane-acrylic hybrid for clear, water-white lacquer for DIY wood finishes.
Sancure 12249	33	8.5	3000	10.7	240(1.65)	3450(23.79)	535	Soft aromatic polymer with excellent adhesion to a wide variety of substrates.
Sancure 12324	32	8.5	50	10.3	4700(32.41)	6100(42.06)	200	A rewettable printing ink vehicle which produces clear tough high gloss films.
Sancure 20023	40	8	300	8.6	890(6.13)	5300(36.54)	650	Hydroxy functional polymer with very high performance, for flexible & rigid substrates, such as plastics. Can be crosslinked.

Sancure® Polyurethane Dispersions

Sancure Polyurethane	Type	% Solids	pH	Viscosity (cP)	Cosolvent (%NMP)	100% Modulus (psi)	Tensile Strength (psi)	Elongation at Break (%)	Description/Suggested Uses
777	Polyester	35	10.0	75	8.1	2,000	5,100	410	Excellent adhesion to wide range of substrates including nylon and plasticizer. Can be used as binder or topcoat. Exhibiting high gloss and excellent abrasion resistance.
815	Polyester	35	8.0	125	8.5	4,100	5,450	220	Excellent heat sealability and adhesion to vinyl.
825	Polyester	34	8.5	425	8.1	4,800	6,600	200	Coating for rigid surfaces such as wood, concrete and plastics. Blends well with Carboset® acrylics.
835	Polyester	40	8.5	200	13.2	345	4,900	600	Soft tough polymer with excellent adhesion to a wide range of substrates.
843	Polyester	32	9.3	400	9.3	3,300	4,800	270	Hard aliphatic urethane. Self-crosslinking, gives excellent chemical resistance. For use in wood and plastic coatings.
861	Polyether	40	8.2	1,000	0	650	2,600	580	Excellent balance of hardness, abrasion resistance and flexibility. Low VOC. Hydrolytically stable.
898	Polyether	32	7.8	200	7.8	5,125	6,100	300	Forms very hard but flexible coatings with good stain and chemical resistance. Fine particle size.
899	Polyester	35	8.0	700	8.0	3,000	4,100	300	Good adhesion to plasticized vinyl. Excellent UV resistance.
2026	Polyester	40	8.3	500	6.8	950	4,200	560	Weather resistant coatings, good heat seal properties. Forms soft, flexible, clear film. Has excellent elongation and toughness. Contains no organic solvent forms.
2105	Polyester	32	8.0	300	0	70	100	1,680	Very soft hand, excellent dielectric seal, low VOC.
2260	Polyester	48	8.5	2,000	9.7	3,800	5,000	200	Harder version of Sancure® 2255. Recommended for wood and plastic coatings.
2715	Polyether	38	9.0	750	0	1,100	3,300	425	Firm hand, low VOC. A tough film with fast property development. Medium hard aliphatic polyether urethane.
12929	Polyester	40	8.0	1,000	11.2	220	2,300	550	Soft textured coatings. Heat sealable at low temperatures. Soft, tough plastic coating.
12954S	Polyester	32	8.0	75	9.6	3,600	3,800	120	Tough, hard polymer for rigid surfaces such as wood, plastic concrete and metal. Can be blended with a variety of acrylics.
13094HS	Polyether	38	8.0	250	0	320	4,200	650	Tough and excellent abrasion, water resistant coating, heat and hydrolysis-resistant. Low VOC.
20003	Polyester	45	8.0	500	9.6	300	4,200	780	Very flexible polymer, with high extensibility and recovery. Use on flexible substrates and textiles, or as dip coating/thin films. Heat sealable.
20025	Polyester	48	8.0	500	0	300	4,100	1,000	Low VOC, elastic polymer. Good heat sealability.
20041	Polyester	45	8.0	100	0	3,400	5,200	330	Low VOC, hard polymer, heat sealability.
OM-933	Aliphatic oil modified	33	8.0	100	2.5	N/A	N/A	N/A	Self-crosslinking, oil-modified urethane dispersion for residential and commercial wood floor finishes with excellent durability, appearance and application ease. Exhibits exceptional outdoor durability. Hard polymer.

Sancure polyurethanes are surfactant-free dispersions of carboxylated urethane polymers, based on a wide range of chemical raw materials. The above chart displays products with the range of properties that is considered most useful to the formulator of specialty finishes. Most Sancure polyurethanes may be used alone or blended with other polymers to increase toughness, adhesion, low temperature flexibility, etc. When blending Sancure polyurethanes with other emulsion polymers, special care must be taken, including bench scale testing for compatibility. Please consult your Lubrizol sales or technical representative for helpful advice.

Sancure® Polyurethane Dispersions (continued)

Sancure Polyurethane	Type	% Solids	pH	Viscosity (cP)	Cosolvent (%NMP)	100% Modulus (psi)	Tensile Strength (psi)	Elongation at Break (%)	Description/Suggested Uses	
ALPHA TIC	OM-945	Aliphatic oil modified	45	8.0	1000	3.5	N/A	N/A	N/A	High-solids, self-crosslinking, oil-modified urethane dispersion for residential and commercial wood floor finishes with excellent durability, appearance and application ease. Exhibits exceptional outdoor durability. Hard polymer.
	Turboeet™ 2025	Aliphatic self-crosslinking	36	8.2	<500	1.0	440	6100	200	Self-crosslinking urethane dispersion for one-component, high-performance wood coatings. Delivers the performance of a two component system without any additional crosslinker. Easy to apply with superior clarity and appearance while providing exceptional abrasion resistance.
AROMA TIC	1511	Polyester	35	9.0	1000	11.3	3150	5500	250	Urethane with a good balance of hardness and flexibility. Use where UV exposure is not a concern.
	1514	Polyester	35	8.5	550	11.4	4500	5000	160	Hard aromatic urethane designed for blending with Carboset® for trade sales wood coatings.
	1591	Polyether	35	8.3	1,600	6.0	820	2,700	580	Multi-purpose backcoatings and adhesives (limited heat and light stability).
	1601	Polyester	35	8.5	1,500	11.3	400	4,525	550	Heat reactivatable coating with excellent adhesion to many substrates.
FLAME RETARDANT	1004A	Polyester	40	9.5	500	13.0	2,100	3,100	335	Inherently flame retarding, stiff hand. Excellent UV and heat stability.
	1073C	Polyester	30	9.0	450	9.9	NA	7,000	18	Very stiff, flame retarding, and stain resistant.
	20037	Polyester	38	7.5	500	0	2,000	2,700	120	Flame retarding, stiff binder for polyester and nylon coatings. Good light fastness. Low VOC.
	20045	Polyester	45	8.0	100	0	260	500	400	Flame retarding, soft binder for polyester and nylon coatings. Good light fastness. Low VOC.
URETHANE/ACRYLIC COPOLYMERS	AU4010	Urethane/Acrylic	37	8.0	200	5.4	NA	NA	NA	A one component self-crosslinking aliphatic polyurethane-acrylic hybrid for high performance clear wood floor finishes.

Permax™ Polyurethane Emulsions

Permax™ Emulsion	Charge	% Solids	pH	Viscosity (cP)	Description/Suggested Uses
200	N	44	6.0	200	Aliphatic polyether waterborne urethane polymer which provides high MVTR. Recommended in waterproof breathable fabric construction for sports wear, protective apparel, military gear, tents and footwear applications.
220	N	35	6.0	1,000	Aliphatic polyether waterborne urethane polymer which provides high MVTR. Recommended to be used on hard surfaces where colloidal stability and MVTR are important, such as on wood, concrete, glass or ceramic coatings.
230	N	33	5.6	600	Aliphatic polyether waterborne urethane polymer which provides high MVTR. Recommended in waterproof breathable fabric construction for sports wear, protective apparel, military gear, tents and footwear applications.
300	N	42	6.0	200	Aromatic self cross-linking urethane polymer with high MVTR. Used as breathable laminating adhesive for films or fabrics where light stability is not a requirement. Self-crosslinking.

Carbocure™ Emulsions

Carbocure™ Emulsion	Tg (°C)	Charge	Solids %	pH	Viscosity (cP)	Specific Gravity	Special Properties and Typical Applications
TSR-72	+72	A	35.0	4.6	50	1.07	Stiff, high crosslink density polymers. High temperature dimensional stability, moldability. For saturation and spray bond. Carbocure TSR-72 has excellent oil and solvent resistance. Carbocure TSR-201 has excellent wet strength and color stability.
TSR-201	+72	A	33.0	4.2	50	1.07	

A = Anionic

Carboset® Acrylic Colloidal Dispersions, Resins & Solutions

Carboset Dispersion	Appearance	Solids %	pH	Viscosity (cP)	Tg (°C)	MFFT* (°C)	Specific Gravity	Freeze Thaw	Acid Number	Description/Suggested Uses
511	Trans. Disp.	30	6.7	40	55	12	1.05	Pass	75	Firm, high acid polymer. Tough pleatable binder when crosslinked.
514H	Trans. Disp.	40	7.0	350	28	<10	1.05	Pass	65	Soft, higher acid dispersion. Excellent rewet uncrosslinked.
515	Viscous Liquid	99	NA	2,000,000	-14	<0	1.1	Pass	63	Polymeric plasticizer. Adhesion promoter.
525	Dry Solid	100	NA	NA	37	NA	1.2	Pass	80	Solid, all acrylic resin with excellent adhesion to a variety of substrates. Can produce permanent water resistant coating or temporary alkaline/removable coatings.
527	Dry Granular	100	NA	NA	54	NA	NA	Pass	80	100% dry granular version of 511.
531	Translucent	25	7.8	7,000	60	17	1.03	Pass	32	Thermostat acrylic recommended for bake finishes. Produces extremely hard, tough, stain-resistant finish. Coatings possess excellent water- and corrosion- resistance.
GA-1160	Dry solid	99	NA	NA	120	NA	1.05-1.1	Pass	215	Flow and leveling. Resolubility. Pigment Dispersion.
GA-1594	Trans. Disp.	40	7.0	106	30	<10	1.05	Pass	65	Similar to 514H but metal ion compatible.
GA-2300	Clear Liquid	28	8.8	3500	70	<0.1	1.00	Protect	200	Pigment grinds (solution of GA-2299).

*MFFT = Minimum Film Forming Temperature

Carboset® Acrylic Emulsions

Carboset Emulsion	Appearance	Solids %	pH	Viscosity (cP)	MFFT* (°C)	Specific Gravity	Freeze Thaw	Description/Suggested Uses
CR-717	White Translucent	38	5.0	35	26	1.04	Protect	Water white, hydroxy-functional emulsion designed for 1-K and 2-K high performance formaldehyde free wood lacquers. Suitable for institutional/office furniture and premium kitchen cabinetry. Surpasses KCMA performance. Very low VOC possible.
CR-760	Milky White	42	8.0	100	23	1.03	Protect	Superior water, humidity and salt spray resistance. Suggested for a wide variety of maintenance finishes, high gloss/semi-gloss enamels, industrial enamels, and interior stain blocking primers. Produces excellent waterproofing masonry coatings.
CR-761	Milky White	42	8.0	50	37	1.03	Protect	Suggested for metal, wood and plastic coatings. Excellent for DTM and trade sales high gloss enamels. Low MVTR makes it excellent for concrete curing membranes and sealers. Suitable for rebar and industrial primers and topcoats.
CR-763	Milky White	42	8.0	80	55	1.03	Protect	Very hard emulsion where block resistance and economy are important. Excellent compatibility with waterborne alkyls. Recommended for general industrial coatings, clear wood dip lacquers, plastic finishes, concrete curing membranes, concrete sealers.
CR-785	Milky White	42.5	8.0	40	44	1.03	Protect	Designed for industrial gloss enamels that require excellent hydrocarbon resistance combined with excellent water resistance, such as automotive or machinery coatings that require gasoline resistance. Excellent concrete coating, sealer, curing membranes.
GA-1993	Milky White	49	8.3	1200	<10	1.10	Protect	Ink, OPV, film inks.
PL958	Milky White	47	8.0	65	<10	1.07	Protect	Clear or pigmented peelable coatings. Excellent release from a variety of substrates. Good tensile and elongation. Very low VOC coatings. For spray booth coatings, temporary product protectants and paint maskants. Suitable for some FDA applications.

*MFFT = Minimum Film Forming Temperature

Carbospense™ Water Treatment Polymers

Carbospense™ polymers are used in a variety of industrial applications. As deposit control agents, Carbospense polymers are used by water treatment service companies as formulation components for water treatment (e.g., cooling, boiler) programs. Carbospense polymers are multi-functional anionic polyelectrolytes that disperse particulates (e.g., silt, clay, iron oxide, pigments), and inhibit scale formation (e.g., calcium carbonate, calcium sulfate, calcium oxalate, barium sulfate, calcium phosphate, calcium phosphonate) over a broad pH range, and sequester di- and trivalent cations (e.g., calcium, magnesium, iron, copper, chromium, zinc). Used around the world, Carbospense polymers have earned a reputation for high quality, consistency, stability, formulating flexibility, high total and active solids, and narrow molecular weight distributions. Carbospense polymers include solvent and water polymerized polyacrylates, polymethacrylates, acrylate copolymers, and acrylate terpolymers. You can obtain product literature and product recommendations for most Carbospense polymers from our web site: <http://www.lubrizolcoatings.com>.

Carbospense Polymer	Chemical Type	Nominal Molecular Weight	pH	Total Solids	Active Solids	Chemical Type/Function
K-702	Polyacrylate	240,000	2.5	25%	24.7%	General purpose dispersants and scale inhibitors.
K-702B	Polyacrylate	2,000	3.6	55%	51.7%	
K-732	Polyacrylate	5,000	2.6	50%	49.5%	High performance general purpose dispersants and scale inhibitors.

Specialty Custom Compounds

Myfam®, Performax® and PrintRite® compounds are used in a variety of textile coating applications such as technical, transportation and home furnishing fabrics. These products can be custom formulated to impart numerous substrate enhancing properties and performance. All the Lubrizol Advanced Materials, Inc. technology platforms in this brochure can be employed to give synergistic properties to these formulated products. Custom compounding allows us to create products that present unique characteristics that address industry test procedures, customer requirements, equipment specifications and end use performance. Please consult your Lubrizol sales or technical representative for helpful advice.

Pressure Sensitive and Laminating Adhesives

Product	Tg (°C)	Charge	Solids %	pH	Viscosity (cP)	Specific Gravity	Description/Suggested Uses
Carbotac® 1811	-43	A	55.0	4.5	120	1.03	Low temperature, pressure sensitive adhesive and polymer tackifier with outstanding tack and peel adhesion.
Carbotac® 1814	-30	A	55.0	4.5	80	1.05	Pressure sensitive adhesive with moderate tack and peel performance. Suggested for use with substrates where film oil and plasticizer resistance are needed.
Carbotac® 26146	-55	A	51.0	7.0	100	0.99	Acrylic pressure sensitive emulsion with excellent adhesion to treated polyethylene and other low energy substrates.
Carbotac® 26171	-43	A	50.0	2.5	125	1.03	General purpose adhesive with balance of tack, peel and shear. Self thickening with increasing pH.
Carbotac® 26222	-55	A	50.0	8.0	70	1.01	Acrylic pressure sensitive adhesive with high dry-tack and excellent adhesion to polyethylene and other low energy substrates.
Carbobond® 26387	-23	A	61.0	5.0	275	1.06	Durable, tough, high solids acrylic polymer for general purpose caulks and sealants. Paper saturant, book cover.
Carbobond® 26373	+5	A	58.0	2.6	90	1.02	Tough, very hydrophobic, high solids wet laminating adhesive with high green tack. Heat sealable.
Performax® 8535	NA	NA	48.0	9.0	8,000	1.06	Cosolvent free waterborne aliphatic polyurethane adhesive compound with excellent adhesion to polyester, nylon and cotton. Can be used as a tie coat for wet or dry lamination.
Permax™ T-1202	NA	NA	38.0	8.5	12,000	1.06	Hydrophilic cosolvent free waterborne polyurethane adhesive compound with excellent adhesion to polyester nylon and cotton. Used as a soft, elastic, breathable tie coat for high moisture vapor transmission films.

Synthetic Thickeners for Coatings and Adhesives

Product	% Solids	pH	Specific Gravity	Viscosity (cP)	Description/Suggested Uses
Carbopol® EP-1	30	3.0	31.05	10	Alkali-swellaable emulsion thickener. Efficient, short rheology.
Carbopol® EP-2	18	3.0	1.04	10	Alkali-swellaable emulsion thickener. Imparts a longer flow than Carbopol EP-1, to control penetration.
Solthix® A100	30		1.06		Alkali-swellaable acrylic emulsion thickener. High efficiency with good flow and leveling properties.

Printing Thickeners

PrintRite Thickener	Viscosity (cP)	pH	Description/Suggested Uses
Carbopol® 846	(0.5%) 35,000	8.5	Very efficient powder thickener for pigment printing applications. Generally used to make liquid concentrate fully neutralized and ready to use.
Carbopol® 1030	(1%) 10,000	7.5	Dye printing thickener. Excellent color value, definition and wash off. Small particle size.

Performax® Flame Retardant Additives

	Performax Additive	% Solids	pH	Viscosity (cP)	Description
FLAME RETARDANT DISPERSIONS	401	67	9.0	3,500	Aqueous dispersion of antimony trioxide
	410	67	9.0	3,500	Aqueous dispersion of decabromodiphenyl oxide
MIXTURES OF DECARBOXYL-PHENYL OXIDE:ANTIMONY OXIDE	411	67	9.0	3,500	1:1 Ratio (Performax 410 : Performax 401)
	421	67	9.0	3,500	2:1 Ratio (Performax 410 : Performax 401)
	431	67	9.0	3,500	3:1 Ratio (Performax 410 : Performax 401)
	441	67	9.0	3,500	4:1 Ratio (Performax 410 : Performax 401)
	451	67	9.0	3,500	5:1 Ratio (Performax 410 : Performax 401)

FDA 21 CFR Food Contact Clearances

Product	175.105	175.300	175.320	176.170	176.180	177.1010	177.1200	177.2260	177.2600
Carbobond® 26373	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Carbobond® 26367	Yes	Yes*		Yes*	Yes*				
Carbopol® 846	Yes	Yes	Yes	Yes*	Yes			Yes*	
Carbopol® EP-1	Yes	Yes	Yes	Yes*	Yes				
Carbopol® EP-2	Yes	Yes	Yes		Yes				
Carboset® 514H	Yes	Yes	Yes	Yes*	Yes				
Carboset® 515	Yes	Yes	Yes	Yes*	Yes				
Carboset® 527	Yes	Yes	Yes	Yes*	Yes				
Carboset® GA-1160	Yes	Yes*	Yes*	Yes*	Yes				
Carboset® GA-1594	Yes	Yes	Yes	Yes*	Yes				
Carboset® GA-1993	Yes	Yes*	Yes*	Yes*	Yes				
Carboset® GA-2300	Yes	Yes*	Yes*	Yes*	Yes				
Carboset® PL958	Yes	Yes*		Yes*	Yes*				
Carboperse® K-702	Yes			Yes*	Yes*				
Carboperse® K-702B	Yes			Yes*	Yes*				
Carboperse® K-732	Yes			Yes*	Yes*				
Carbotac® 26171	Yes				Yes				
Hycar® 26083	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26084	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26091	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26092	Yes			Yes*	Yes*				Yes*
Hycar® 26108	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26120	Yes								
Hycar® 26138	Yes			Yes*	Yes*				Yes*

*Denotes that end use limitations or requirements apply such as extraction requirements, use level limits, food types, use conditions and temperature limitations. This table includes only a partial listing of 21 CFR applications. Contact Lubrizol for a complete listing of regulations as well as use restrictions and/or requirements.

FDA 21 CFR Food Contact Clearances (continued)

Product	175.105	175.300	175.320	176.170	176.180	177.1010	177.1200	177.2260	177.2600
Hycar® 26172	Yes				Yes				
Hycar® 26256	Yes								
Hycar® 26288	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26315	Yes	Yes	Yes	Yes*	Yes				
Hycar® 26319	Yes			Yes*	Yes				
Hycar® 26322	Yes			Yes*	Yes*				Yes*
Hycar® 26345	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26349	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26367	Yes	Yes*		Yes*	Yes*				
Hycar® 26391	Yes								
Hycar® 26450	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26477	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes
Hycar® 26688	Yes			Yes*	Yes*				
Hycar® 2671	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26717	Yes			Yes*	Yes				
Hycar® 2679	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hycar® 26796	Yes								
Hystretch® V-29	Yes								
Hystretch® V-43	Yes				Yes				
Hystretch® V-43 FDA	Yes	Yes*	Yes*	Yes*	Yes	Yes*	Yes*	Yes*	Yes*
Hystretch® V-60	Yes				Yes				
Stycar™ 1177	Yes								
Vycar® 351	Yes				Yes				
Vycar® 352	Yes				Yes				
Vycar® 460X46	Yes								
Vycar® 460X49	Yes				Yes				
Vycar® 460X63	Yes								
Vycar® 460X95	Yes				Yes				
Vycar® 580X180	Yes								
Vycar® 580X83	Yes								
Vycar® 660X14	Yes								
Vycar® TN-610	Yes				Yes*				

*Denotes that end use limitations or requirements apply such as extraction requirements, use level limits, food types, use conditions and temperature limitations. This table includes only a partial listing of 21 CFR applications. Contact Lubrizol for a complete listing of regulations as well as use restrictions and/or requirements.

TABLE

Part 175 – Indirect Food Additives: Adhesives and Components of Coatings

- 175.105 Adhesives
- 175.300 Resinous and polymeric coatings
- 175.320 Resinous and polymeric coatings for polyolefin films

Part 176 – Indirect Food Additives: Paper and Paperboard Components

- 176.170 Components of paper and paperboard in contact with aqueous and fatty foods
- 176.180 Components of paper and paperboard in contact with dry food

Part 177 – Indirect Food Additives: Polymers

- 177.1010 Acrylic and modified acrylic plastics, semirigid and rigid
- 177.1200 Cellophane
- 177.2260 Filters, resin-bonded
- 177.2600 Rubber articles intended for repeated use