DEGACRYL®

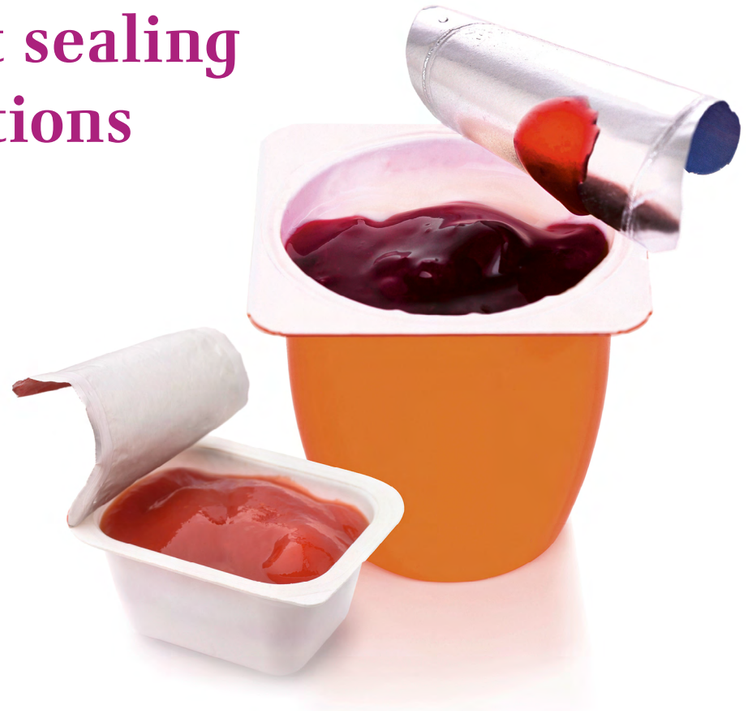
DISCOVER OUR WORLD OF **METHACRYLATE BINDERS FOR HEAT SEAL APPLICATIONS.**

We design polymers.

EVONIK
Leading Beyond Chemistry

DEGACRYL® HS

Methacrylate binders for heat sealing applications



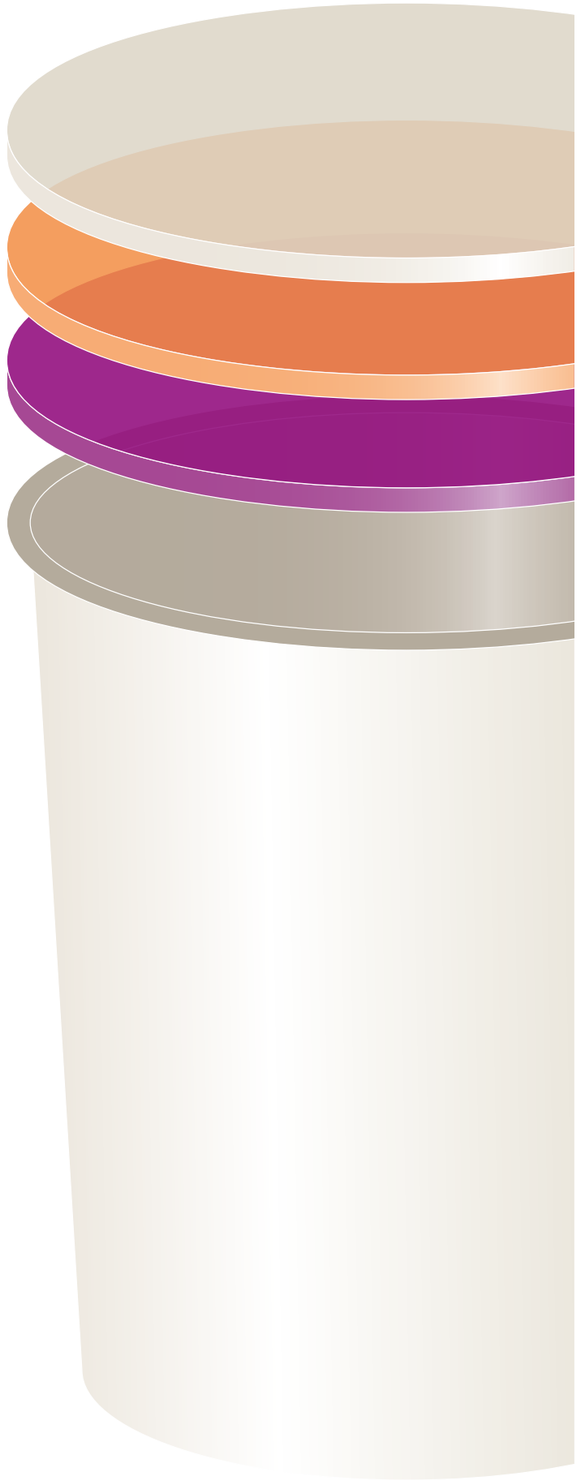
With its DEGACRYL® HS binders Evonik offers a unique product portfolio of functional methacrylic co-polymers. These binders represent an excellent solution for heat sealing applications in the packaging industry.

Our functional binders can be divided into four groups based on their appearance:

- **DEGACRYL® HS** - Organic Dispersions
- **DEGACRYL® HS** - Organic Solutions
- **DEGACRYL® HS** - Bead Polymer
- **DEGACRYL® HS** - Aqueous Dispersions

Our DEGACRYL® HS binders are ideally suited for the formulation of high-quality heat seal coatings to provide an excellent and secure sealing in combination with smooth peeling.

DEGACRYL® HS organic dispersions provide direct adhesion to aluminum or PET lidding material for economical and environmentally friendly packaging solutions.
All common cup materials from polar polystyrene to non-polar polypropylene can be sealed, PET and PLA included. All products comply with international regulations for food contact. DEGACRYL® HS bead polymers can be supplied in paper and big bags. DEGACRYL® HS organic solutions, dispersions as well as aqueous dispersions can be supplied in drums, IBCs or tank trucks.



YOUR BENEFITS AT A GLANCE

- Excellent seal and peel properties on aluminum foil or film structures
- Outstanding smooth peel effect
- Wide property range: from easy opening to high sealing strength
- Multi-purpose sealing capabilities to various substrates
- Economical and environmental friendly packaging solutions

ANALYTICAL METHODS

Solid Content
Determination according to DIN EN ISO 3251.

Viscosity Number
Determination according to DIN 51562 respectively DIN EN ISO 1628-1.

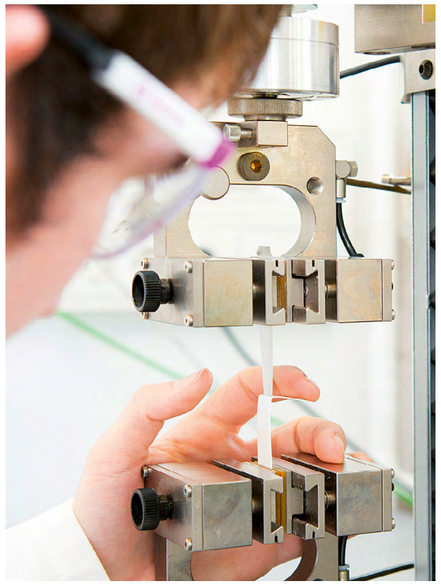
Dynamic Viscosity
Determination according to DIN EN ISO 3219.

Glass Transition Temperature (T_g)
Determination according to DIN 53765 respectively DIN EN ISO 11357-1.

Molecular Weight (M_w)
Determination according to DIN 55672-1.

Density
Determination according to DIN EN ISO 1183-1.

Flash Point
Determination according to DIN EN ISO 1523.

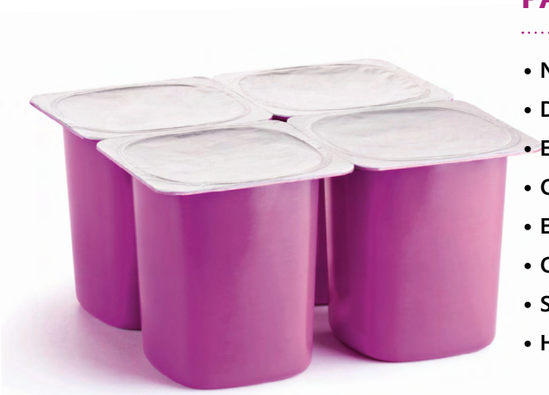


DEGACRYL® HS provides benefits for a variety of lidding materials

Want to learn more about our tailor-made heat seal coatings for sustainable packaging?

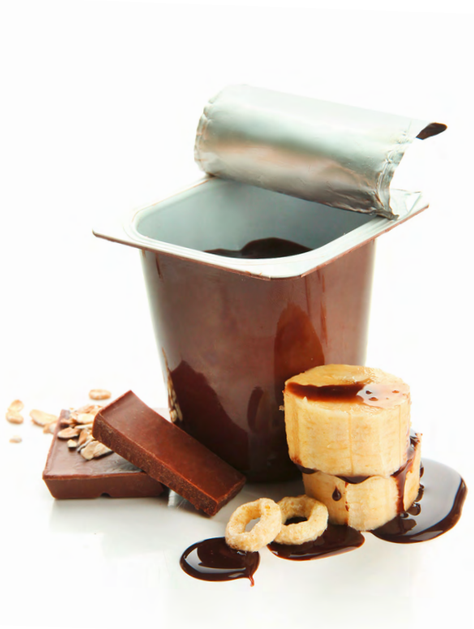
Check out our trainings given by our technical experts.

degacryl.com/movies



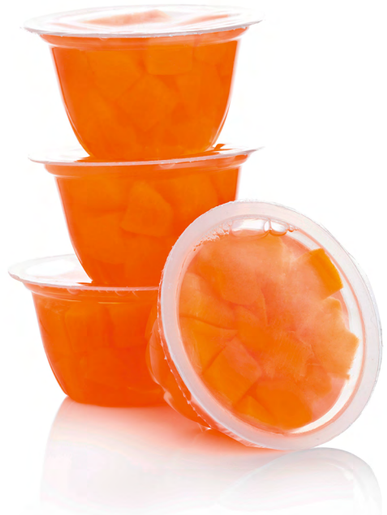
PAPER/PET LIDDING

- No PVC-copolymer required
- Direct adhesion to PET or aluminum
- Easy to use
- Optimized for low coating weight
- Enables PET mono packaging
- One-step process = cost savings in PET coating
- Seals on common substrates like PS, PET, PVC, PLA & PBT
- High solid content leads to increased productivity



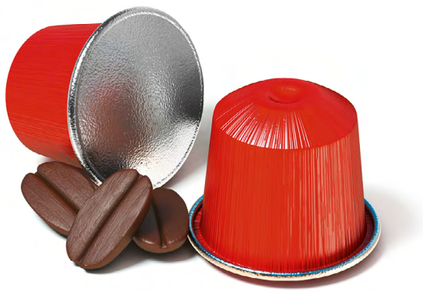
ALUMINUM LIDDING

- Copolymers free of ethylidene norbornene
- No PVC-copolymer required
- Low dynamic viscosity level
- Improved rub-off resistance
- No restrictions for any filling good
- PVC-free packaging
- High solid content leads to increased productivity
- Less cleaning and more production cycles means more output!



TRANSPARENT PET LIDDING

- Direct adhesion to PET
- No primer needed
- Low haze binder for high transparency
- One-step process = cost savings in PET coating
- Seals versus common substrates like PET, PS, PVC, PVdC, PLA and PBT
- Recyclability: Enables single PET packaging, e.g. PET-film vs. PET-tray
- Anti-fog properties achievable by adding corresponding additives



UNIVERSAL LIDDING

- No PVC-copolymer required
- Copolymers free of ethylidene norbornene
- Low dynamic viscosity level
- Improved rub-off resistance
- No restrictions for any filling good
- PVC-free packaging
- High solid content leads to increased productivity
- Less cleaning and more production cycles means more output!

DEGACRYL® HS

Product Information

	Properties						Aluminum Adhesion	PET Adhesion	Paper Adhesion	Sealing Substrate						
	Solvent	Solid Content [%]	Viscosity Number [cm^3/g]	Dynamic Viscosity [mPa·s]	Dilutability [1]	Glass Transition Temperature (T_g) [°C]	Direct D/Indirect I [2]	Direct D/Indirect I [3] [4]	Direct D/Indirect I	PS	PVC	PET	PLA	PP	PE	Paper
Organic Dispersion																
555	n-Butyl acetate/ Methyl ethyl ketone 70/30	44 - 46	163	500 - 1,500	E, K	-48; 29	I	I [3]	D	●	●	●	●	●	●	●
4150 E	n-Propyl acetate/ Ethyl acetate/Isooctane 54/36.5/9.5	42 - 44	147	800 - 2,500	E, K	-48; 33	I	I [3]	D	●	●	●	●	●	●	●
4250 E	n-Propyl acetate/Ethyl acetate/ Isooctane 52/39/9	44 - 46	144	800 - 3,500	E, K	-55; 45	I	I [3]	D	●	●	●	●	●	●	●
666	n-Butyl acetate/ Methyl ethyl ketone 70/30	44 - 46	157	1,000 - 3,500	E, K	-51; 29	D	I [3]	D	●	●	●	●	●	●	●
4151 E	n-Propyl acetate/ Ethyl acetate/Isooctane 47.8/43.8/8.4	39 - 42	142	500 - 2,000	E, K	-51; 30	D	I [3]	D	●	●	●	●	●	●	●
4251 E	n-Propyl acetate/ Ethyl acetate/Isooctane 53/38/9	44 - 46	142	1,000 - 4,000	E, K	-51; 44	D	I [3]	D	●	●	●	●	●	●	●
4313 E	n-Propyl acetate	44 - 46	71	500 - 3,000	E, K	-54; 42	D	D	D	●	●	●	●			●
4322 E [6]	n-Propyl acetate/Methyl ethyl ketone/ i-Propanole 75/19/6	39 - 41	48	2,000 - 8,000	E, K	57	D	D	D	●	●	●	●			●
4174 E	n-Propyl acetate/ Ethyl acetate/Isooctane 64/25.9/10.1	46 - 48	171	1,000 - 3,500	E, K	-48; 33	D	D	D	●	●	●	●	●	●	●
4294 E	n-Propyl acetate/Ethyl acetate/n-Heptane/ tert-Butyl acetate 64/26/5/5	50 - 53	136	800 - 3,500	E, K	-52; 43	D	D	D	●	●	●	●	●	●	●
4296 E	n-Propyl acetate/Ethyl acetate/n-Heptane/ tert-Butyl acetate 64/26/5/5	50 - 53	109	800 - 3,500	E, K	-55; 63	D	D	D	●	●	●	●	●	●	●
Organic Solution																
4792 L	Methyl ethyl ketone	53 - 57	40	1,500 - 4,000	E, K	48	I	I [4]	D	●	●					●
4799 L	Ethyl acetate	53 - 57	40	< 4,000	E, K	48	I	I [4]	D	●	●					●
Bead Polymer																
4862 P		100	50-60	450 [7]	E, K	43	I	I [4]	D	●	●					●
Aqueous Dispersion																
4240 D	Water	49,5 - 52	not determined	100 - 1,000	W	15; 49	D		D	●	●		●			●

[1] E = Esters, K = Ketones, W = Water
[2] Primering or formulation with PVC adhesion promotor like Vinnol® terpolymer grade from e.g. Wacker Chemie AG, Burghausen, Germany
[3] Primering with polyester adhesion promotor like Dynapol® L 206 or L 208 from Evonik Industries AG, Marl, Germany
[4] Formulation with PVC terpolymer required to achieve good adhesion on primed PET-film (e.g. VINNOL® from Wacker Chemie AG, Burghausen, Germany)
[5] New products subject to minor modification, development stage
[6] Transparent coating
[7] 40% solution in methyl ethyl ketone

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06/2025/e/HELFF

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