

 **BASF**

The Chemical Company



# Innovative solutions for adhesive raw materials



# Adhesive raw materials

for pressure sensitive label

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	Features	General Purpose Permanent		General Purpose Removable	
						Paper Label	Film Label	Paper Label	Film Label
<b>Acrylic Dispersion Polymers</b>									
Acronal® NX 2160	750	4.0	65.0	-58	Broad application temperature performance for film and paper labels	✓	✓		
Acronal A 110	300	7.0	55.0	-55	Removable adhesion; low tack with excellent removability			✓	✓
Acronal DS 3570	300	7.0	60.0	-47	Good clarity for films; excellent adhesion to non-polar substrates	✓	✓		
Acronal A 220 NA	300	7.0	60.0	-45	High adhesion; good clarity and wet-out; high cohesion, good water resistance	✓	✓		
Acronal DS 3598	1300	8.5	61.5	-45	Good clarity for films; excellent adhesion to non-polar substrates		✓		
Acronal A 145	200	8.5	52.0	-45	Removable adhesion; excellent plasticizer resistance; low tack with very smooth peel				✓
Acronal A 245	150	9.0	53.0	-45	Semi-permanent adhesion; excellent plasticizer resistance				✓
Acronal N 284 NA	150	8.0	55.0	-40	High shear and peel; good chemical resistance; good tackifier response	✓	✓		
Acronal V 210 NA	850	5.0	69.0	-40	High adhesion; high solids/low viscosity; low VOC; high cohesion; good tackifier response	✓	✓		
Acronal 4032 X	150	7.0	60.0	-33	Moderate to high adhesion; excellent clarity and wet-out; good water resistance	✓	✓		
Acronal NX 2278	550	5.5	58.0	-31	Excellent removability for film label applications; good plasticizer resistance; self-crosslinking; high shear				✓

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## for pressure sensitive label

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	Features	General Purpose Permanent		General Purpose Removable	
						Paper Label	Film Label	Paper Label	Film Label
Acronal® A 240 NA	150	6.0	51.0	-30	High adhesion and tack; high cohesion; crosslinkable; excellent chemical and water resistance; excellent plasticizer resistance	✓	✓		
Acronal V 275 NA	400	5.5	65.0	-30	Moderate adhesion; very high cohesion; good plasticizer resistance	✓	✓		
<b>SBR Dispersion Polymers</b>									
Butofan® NS 144	300	6.8	49.0	-48	Low temperature performance; high tack; sound damping properties	✓			
Butofan NS 166	450	8.7	51.0	-40	Excellent tackifier response; polymer base for general purpose applications	✓			
Butofan NS 222	300	8.7	51.0	-26	Excellent water resistance; good tack; high cohesion	✓			
<b>UV Acrylic Hot-melt Polymers</b>									
acResin® DS 3532	<10,000	100.0	8.8	-60	Low adhesion; moderate cohesion; removable/ freezer applications; excellent aging; heat & water resistance; high clarity; adjustable PSA properties			✓	✓
acResin A 260 UV	45,000	100.0	8.8	-39	Very high cohesion; excellent aging; heat & water resistance; high clarity; adjustable PSA properties	✓	✓		
acResin A 250 UV	45,000	100.0	8.8	-39	Excellent clarity & water resistance; balance of adhesion & cohesion; able to cure at higher coating weights	✓	✓		
acResin A 204 UV	35,000	100.0	8.8	-34	Designed to accept tackifier; good adhesion; high cohesion; adjustable PSA properties	✓	✓		

# Adhesive raw materials

for pressure sensitive specialty tape and graphic arts

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	Features	Specialty Tape (Permanent, high shear)	Specialty Tape (Removable)	Graphic Arts Films
<b>Acrylic Dispersion Polymers</b>								
Acronal® A 245	150	9.0	53	-45	Semi-permanent adhesion; excellent plasticizer resistance		✓	✓
Acronal A145	200	8.5	52	-45	Removable adhesion; excellent plasticizer resistance; low tack with very smooth peel		✓	✓
Acronal N 284 NA	150	8.0	55	-40	High shear and peel; good chemical resistance; good tackifier response	✓		
Acronal V 210 NA	850	5.0	69	-40	High adhesion; high solids/low viscosity; low VOC; high cohesion; good tackifier response	✓		
Acronal NX 2278	550	5.5	58	-31	Excellent removability for film label applications; good plasticizer resistance; self-crosslinking; high shear		✓	✓
Acronal A 240 NA	150	6.0	51	-30	High adhesion and tack; high cohesion; crosslinkable; excellent chemical and water resistance; excellent plasticizer resistance	✓		✓
Acronal V 275 NA	400	5.5	65	-30	Moderate adhesion; very high cohesion; good plasticizer resistance	✓		
<b>SBR Dispersion Polymers</b>								
Butofan® NS 144	300	6.8	49	-48	Low temperature performance; high tack; sound damping properties	✓		
Butofan NS 166	450	8.7	51	-40	Excellent tackifier response; polymer base for general purpose applications	✓		
Butofan NS 222	300	8.7	51	-26	Excellent water resistance; good tack; high cohesion	✓		
<b>UV Acrylic Hot-melt Polymers</b>								
Product	Viscosity before cure (cps) at 140°C	pH	Density (lbs/gal)	Tg (°C)	Features	Specialty Tape (Permanent, high shear)	Specialty Tape (Removable)	Graphic Arts Films
acResin® DS 3532	<10,000	100.0	8.8	-60	Low adhesion; moderate cohesion; removable/ freezer applications; excellent aging; heat & water resistance; high clarity; adjustable PSA properties		✓	
acResin A 260 UV	45,000	100.0	8.8	-39	Very high cohesion; excellent aging; heat & water resistance; high clarity; adjustable PSA properties	✓		
acResin A 250 UV	45,000	100.0	8.8	-39	Excellent clarity & water resistance; balance of adhesion & cohesion; able to cure at higher coating weights	✓		
acResin A 204 UV	35,000	100.0	8.8	-34	Designed to accept tackifier; good adhesion; high cohesion; adjustable PSA properties	✓		✓

✓ = applies

# Adhesive raw materials

for flexible packaging applications

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	FDA Compliance*	Features	Substrate			
							Polyolefin	PLA	Aluminum	PET
<b>Water-based Polyurethane Dispersions for Film-to-film Lamination</b>										
Epotal® P 100 Eco**	80	8	40	-46	✓	Adhesive raw material for low to medium performance laminates	✓	✓	✓	✓
Epotal FLX 3621	200	6.5	53	-45	✓	Adhesive raw material for low to medium performance laminates	✓		✓	✓
Luphen® D 259 U	80	6.5	40	-45	✓	Adhesive raw material for low to medium performance laminates	✓		✓	✓
Basonat® LR 9056	3000	–	100	–	✓	Isocyanate based crosslinker for PUD dispersion polymers				

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	FDA Compliance*	Features	Applications
<b>Styrene-butadiene Dispersion Polymers for Paper-to-Paper/Foil Lamination</b>							
Styronal® NX 4222	1000	9	50	-25	✓	Excellent for foil lamination; casein compatible; excellent for aluminum and metalized plastic foils	Paper-to-film & foil wet bond lamination
Styronal ND 430	150	8.5	50	-7	✓	Casein compatible; good adhesion; foil lamination (wet bonding)	Paper-to-paper wet bond lamination
Styronal ND 656	165	7	50	18	✓	Rubber based binder; strong film, good filler loading; suitable as high temperature binder for sound damping application	Paper-to-foil wet bond lamination
Styronal ND 811	125	7.5	50	56	✓	Reinforcement latex for other dispersion polymers. Non-film former but heat re-flows to high gloss	Mix with other dispersion polymers to reinforce the lamination performance

\* Detail FDA compliance is available upon request

\*\* Epotal P 100 Eco: certified compostable adhesive (EN 13432 standard)

✓ = applies

# Adhesive raw materials

## for technical lamination

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	Features	Technical Lamination (Wet)	Technical Lamination (Dry)
<b>Acrylic Dispersion Polymers</b>							
Acronal® V 210 NA	850	5.0	69	-40	Excellent laminating adhesion to olefin films; high cohesion/adhesion and tack; low VOC; good water resistance	✓	✓
Acronal 4032 X	150	7.0	60	-33	Excellent wetting and optical clarity; medium tack and peel; good water resistance	✓	✓
Acronal V 275 NA	400	5.5	65	-30	High heat resistance; excellent film/foil adhesion; good water resistance	✓	✓
Acronal A 310 S	100	5.5	55	-20	Self X-linking acrylic polymers; excellent film optical clarity	✓	✓
<b>Styrene-butadiene Dispersion Polymers</b>							
Butofan® NS 144	300	6.8	49	-48	Good low temperature adhesion. Excellent adhesion to metal coatings; adhesion promoters for other SBR's	✓	✓
Butofan NS 222	300	8.7	51	-26	Excellent water resistance; adhere to EPDM	✓	✓
Butofan NS 209	300	8.6	51	-26	High cohesion version of Butofan NS 222	✓	✓
Styrofan® ND 430	100	7.0	50	-7	Casein compatible; good adhesion; good for foil laminating	✓	

✓ = applies

# Water-based dispersion polymers

for Liquid Applied Sound Damping (LASD) application

Product	Viscosity (cps)	pH	Solids (%)	Tg (°C)	Features
Butonal® NS 175	1250	10.5	71	-58	Low Tg styrene-butadiene dispersion polymer; impact modifier; NVH bitumen pad modifier
Acronal® DS 3612	500	7	55	-15	Low Tg acrylic dispersion polymer; blended with other polymers to offer low temperature damping performance
Acronal NX 4569	550	7.5	50	4	Medium Tg acrylic dispersion polymer; ideal for damping peak temperature around 25~30° C
Acronal DS 3502	15000	7.5	55	4	Medium Tg acrylic dispersion polymer; blended with other polymers for broader temperature performance
Acronal 4053 X	2000	7	55	4	New medium Tg acrylic dispersion polymer; lower viscosity than Acronal DS 3502 for easier handling and blending
Styofan® NX 6690	450	8	53	11	Medium Tg styrene-butadiene dispersion polymer; blended with acrylic dispersion for broader temperature performance
Acronal DS 3626	550	7	55	35	High Tg acrylic dispersion polymer; blended with other polymers to offer high temperature performance
Acronal NX 5818	250	6.5	52	39	High Tg acrylic dispersion polymer; blended with other polymers to offer high temperature performance

## We create chemistry for pressure sensitive adhesives

BASF helps manufacturers of pressure sensitive adhesive products to be successful with polymers that address functional needs for specific applications. Our portfolio of acrylic emulsion polymers, styrene-butadiene rubber (SBR) emulsion polymers, and ultraviolet (UV) curable acrylic hot-melt polymers can be used to produce high performance labels, tapes, graphic arts and protective films in an environmentally and socially responsible manner.

Our product range chart provides all of the information you need to select the right dispersions for your application needs.

The growing family of skilled people, outstanding products, and innovative technologies that make up BASF provide our customers with the resources needed to meet the most demanding applications. In addition to a full portfolio of polymers for adhesives, we offer a growing line of additives, including antioxidants, light stabilizers, photoinitiators, wetting agents, thickeners, crosslinkers, plasticizers, and adhesion modifiers.

**Great people. Great products.**  
**Creating chemistry for pressure sensitive adhesives.**

## About BASF

BASF Corporation, headquartered in Florham Park, New Jersey, is the North American affiliate of BASF SE, Ludwigshafen, Germany. BASF has nearly 17,000 employees in North America, and had sales of \$19.3 billion in 2013. For more information about BASF's North American operations, visit [www.basf.us](http://www.basf.us).

BASF is the world's leading chemical company: The Chemical Company. Its portfolio ranges from chemicals, plastics, performance products and crop protection products to oil and gas. We combine economic success with environmental protection and social responsibility. Through science and innovation, we enable our customers in nearly every industry to meet the current and future needs of society. Our products and solutions contribute to conserving resources, ensuring nutrition and improving quality of life. We have summed up this contribution in our corporate purpose: We create chemistry for a sustainable future. BASF had sales of about €74 billion in 2013 and over 112,000 employees as of the end of the year. Further information on BASF is available on the Internet at [www.basf.com](http://www.basf.com).

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## BASF pressure sensitive polymers

### Acronal® acrylic emulsion polymers

- 2-Ethylhexyl acrylate (2-EHA) and butyl acrylate (BA)-based polymers
- Available as neat polymers or coater ready formulations
- Products tailored to have a range of performance characteristics including cold temperature adhesion, high clarity, resistance to plasticizer, and other difficult conditions

### Butofan® SBR emulsion polymers

- Easy to formulate
- Accept high tackifier loading
- Wide range of glass transition temperature (T<sub>g</sub>) to tailor desired performance

### acResin® UV acrylic hot melt polymers

- Low coating temperature and no ovens means low energy costs
- U.S. Food and Drug Administration (FDA) direct food contact approvals
- Very low volatile organic compound (VOC) for fog-free and high clarity applications
- High coat weight/high line speed combinations for excellent throughput

For more information, scan the QR Code below, or visit [basf.us/dpsolutions](http://basf.us/dpsolutions)

