

# pressure sensitive adhesives

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for medical applications

Adhesion. Protection.



We are **passionate, tenacious, solvers** who thrive on developing practical, innovative, and elegant solutions to complex problems in applied chemistry, always pushing the boundaries of what's possible, and advancing the competitiveness of our customers in the medical and medical device industries.

Our people are distinguished by their ability to create and apply specialized chemistry in ways that enable customers to amplify the **efficacy**, refine the **usability**, add to the **allure**, ensure the **integrity**, and improve the **profitability** of their products and applications. We achieve this by offering a vast product line, custom solutions, and superior technical support.

Serving the industry for more than 50 years, Ashland is the leading supplier of pressure sensitive adhesives (PSA) in North America, providing adhesives to nearly every coater of specialty pressure sensitive adhesive products in both America and Europe. Our products deliver improved efficacy to and usability to wound care and ostomy care products, as well as transdermal, electromedical, bandages and diagnostic device supplies.

We have solved some of the industry's most difficult challenges, helping manufacturers improve patient comfort and ensure better outcomes. What is your greatest goal and your biggest obstacle? Talk to us. We are always solving, and we can help solve for you, too.



# Pressure Sensitive Adhesives for Medical Applications

Ashland's high-performance medical PSAs meet the demands of the healthcare industry for safety, quality and performance. We offer a variety of technologies to fit most industry standard manufacturing processes for an array of product types.

- Aroset™ solvent acrylic pressure sensitive adhesives
- Arocure™ 100% solids UV-curable hotmelt acrylic pressure sensitive adhesives
- Flexcryl™ emulsion acrylic pressure sensitive adhesives
- Aroset™ emulsion acrylic pressure sensitive adhesives

## Technology Benefits:

- Non-sensitizing
- Low residual monomers
- Non-cytotoxicity
- Non-irritating
- Broad range of performance balances
- Low residual monomers
- Single component and coater ready
- Sterilization friendly

Our formulations do not contain any animal derivatives or natural rubber latex derivatives. They have passed compulsory skin-contact requirements including cytotoxicity, primary dermal irritation and sensitization tests under ISO 10993 (or similar) standard methods. Should you require DMF numbers, MVTR or other regulatory documentation, please contact your Ashland technical service representative.

All information presented herein is believed to be accurate and reliable, and is solely for the user's consideration, investigation and verification. The information is not to be taken as an express or implied representation or warranty for which Ashland assumes legal responsibility. Any warranties, including warranties of merchantability, fitness for use or non-infringement of intellectual property rights of third parties, are herewith expressly excluded.

Since the user's product formulations, specific use applications and conditions of use are beyond the control of Ashland, Ashland makes no warranty or representation regarding the results which may be obtained by the user. It shall be the sole responsibility of the user to determine the suitability of any of the products mentioned for the user's specific application.

Formulations for the medical device industry and for diagnostic device constructions that do not require skin contact testing are also available.

## Medical PSA Features

Product Name	Description	Adhesive Features
Aroset 212M	Self-crosslinking solution acrylic	Balanced adhesion and cohesion, good skin adhesion, low residual monomers after completed dried.
Aroset 390M	Self-crosslinking solution acrylic	Tackified, good shear and high LSE adhesion, good foam anchorage, moisture resistance.
Aroset S488	Self-crosslinking solution acrylic	Tackified, high peel, high LSE adhesion, good foam anchorage, moisture resistance.
Aroset 537X2	Self-crosslinking solution acrylic	Tackified, very high solids product, low glass transition temperature polymer that adhere to multiple surfaces well.
Aroset 1081-Z-45	Thermoplastic solution acrylic	High tack and adhesion, moisture resistance, optical clarity.
Aroset 1085-Z-45	Heat-activated crosslinking solution acrylic	Controllable adhesive performance, broad adhesion spectrum, gamma radiation resistance, moisture resistance, optical clarity.
Aroset 1450-Z-40	Heat-activated crosslinking solution acrylic	Toluene free, removable performance, low peel adhesion build over time.
Aroset 1551A	Self-crosslinking solution acrylic	Tackified, high adhesion to LSE surfaces and high cohesion, good chemical resistance.
Aroset 1810-Z-52	Self-crosslinking solution acrylic	High peel and tack, moisture resistance, optical clarity, good foam anchorage.
Aroset 1845-Z-45	Self-crosslinking solution acrylic	Low-temperature application, rapid wet-out, excellent skin adhesion.
Aroset 1860-Z-45	Self-crosslinking solution acrylic	High cohesive strength, excellent heat and alcohol resistance, good plasticizer resistance for PVC film bandages, optical clarity.
Aroset 1910-TH-52	Self-crosslinking solution acrylic	General purpose, good adhesion to a variety of surfaces, solvent recoverable.
Aroset 1920-Z-52	Self-crosslinking solution acrylic	High peel and tack, moisture resistance, optical clarity, good foam anchorage.
Aroset PS 5333	Self-crosslinking solution acrylic	Medium tack for long-term wear applications, high shear to improve convertibility, high MVTR, no CMR ingredients.
Aroset PS 5339	Self-crosslinking solution acrylic	High skin adhesion and affinity to LSE surfaces, good cohesion and improved clean removability, no CMR classified ingredients and 2, 4 pentanedione free.
Aroset PS 8062	Self-crosslinking solution acrylic	High tack and peel, good skin adhesion, good compatibility with additives.
Aroset AGX L	Self-crosslinking solution acrylic	Excellent anchorage to fabric & foams, good skin adhesion and moisture resistance.
Arocure RPS 9100S	100% solids UV hotmelt acrylic PSA	Suitable for high-deposition application, tackified, good adhesion to various surfaces including LSE and cohesion, temperature and chemical resistance.
Arocure RPS 9055S	100% solids UV hotmelt acrylic PSA	Suitable for high-deposition removable application, clean removability on multiple surfaces even after aging.
Arocure RPS 9500S	100% solids UV hotmelt acrylic PSA	Very high adhesion and medium cohesion, good skin adhesion for long term application.

● Primary choices

○ Alternative choices

Application								Typical Solids %	Glass Transition Temperature Tg (DSC Midpoint)	180o Peel SS (24HR) PSTC-101 (N/25.4mm)	Ambient Static Shear 1in x 1in x 1000g (Hours)	Loop Tack (SS) (N/25.4mm)	Product Name
Bandage	ECG	Foot Care	Surgical	Wound dressing	Medical tapes	Medical Labels	Diagnostic						
	●	●	●		●		●	50%	-49	20	50+		Aroset 212M
●	●	●	○	○	●		●	49%	-25	25	15	20	Aroset 390M
	●	●	●	●	○		○	50%	-35	23	0.2	19	Aroset S488
●	○			●	○		○	62%	-51	29	24+		Aroset 537X2
	●	●	●	●		○	●	45%	-46	20	2	14	Aroset 1081-Z-45
●	●	●		●	●	●	●	45%	-46	18	4	7	Aroset 1085-Z-45
	○		○	○	●	●	○	40%	-49	9	24+	8	Aroset 1450-Z-40
	○	○	○	○	●	●		45%	-31	22	24+	23	Aroset 1551A
●	○	○	●	●	●		●	52%	-45	23	24+		Aroset 1810-Z-52
	●	●	○	●	●	○		45%	-62	17	2	16	Aroset 1845-Z-45
		○	●	○	●		●	45%	-43	17	24+	10	Aroset 1860-Z-45
●	○	○	●	●	●		●	52%	-45	22	5	15	Aroset 1910-TH-52
	●		○	●	●	●		52%	-46	28	1	13	Aroset 1920-Z-52
●	●		○	●	●	●	●	57%	-40	17	24+	12	Aroset PS 5333
●	●		○	●	●	●	●	48%	-52	35	9	16	Aroset PS 5339
	●	●	○	●	●		●	50%	-43	23	1+	19	Aroset PS 8062
●	●	●	○	●	●		●	40%	-38	16	24+	6	Aroset AGX L
	○	○	○	●	●		●	99%+	-35	20	50+	22	Arocure RPS 9100S
			○	●	●			99%+	-35	11	50+	20	Arocure RPS 9055S
	●	●	○	●	●		●	99%+	-50	35	20+	36	Arocure RPS 9500S

## Medical PSA Features

Product Name	Description	Adhesive Features
FLEXcryl 165	Water-based acrylic	Very high solids water-based acrylic PSA with moderate peel and shear, good low temperature performance
FLEXcryl GP-6W	Water-based acrylic	Water-based acrylic PSA with high tack and high peel adhesion, general purpose permanent adhesive.
FLEXcryl LC-18	Water-based acrylic	Water-based acrylic PSA with high tack and high peel adhesion, general purpose adhesive with good aging.
Aroset APS 1135-1	Water-based acrylic	Water-based tackified acrylic PSA with high adhesion to low surface energy surfaces, balance of peel and shear.
Aroset APS 1295	Water-based permanent acrylic	Good adhesion to low and high surface energy surfaces, water resistance, low-temperature performance.
Aroset APS 1325	Tackified water-based acrylic	Tackified high performance PSA with good adhesion to corrugated, polyolefin and foams.
Aroset 2532	Removable water-based acrylic	Water-based acrylic PSA for long term removability, resistance to discoloration.
Aroset 2555	Ultra removable water-based acrylic	Ultra removable PSA for paper or film facestocks, clean removability from various surfaces.
Aroset 2570	Removable water-based acrylic	General purpose removable adhesives for high-energy and low-energy surfaces.
Aroset 3240	Permanent water-based acrylic	Water-based acrylic PSA for vinyl and films application, balanced peel and shear with low shrinkage.
Aroset 3250	Permanent water-based acrylic	Water-based acrylic PSA with rapid wet out and aggressive adhesion, suitable for film, foam and paper facestocks.
Aroset 3300	Permanent water-based acrylic	Water-based acrylic PSA with good resistance to plasticizer migration and good aging performance.
Aroset 3312	Permanent water-based acrylic	Water-based acrylic PSA with good resistance to plasticizer migration and very high cohesive strength.
Aroset 3518	Tackified permanent water-based acrylic	High-tack permanent adhesives with good adhesion to LSE, good anchorage to film, foam and paper.
Aroset 3561-1	Tackified permanent water-based acrylic	Water-based tackified acrylic PSA with high adhesion to low surface energy surfaces, balanced peel and shear.

● Primary choices

○ Alternative choices

## Ashland's Global Presence

### Manufacturing Facilities

#### North America

Huntsville, Alabama  
 Wilmington, Delaware  
 Dalton, Georgia  
 Calvert City, Kentucky  
 Freetown, Massachusetts  
 Chatham, New Jersey  
 Parlin, New Jersey  
 Columbus, Ohio  
 Kenedy, Texas  
 Hopewell, Virginia

Calumet City, Illinois  
 Hilliard, Ohio  
 Ashland, Ohio  
 White City, Oregon  
 Piedmont, South Carolina  
 Texas City, Texas

#### Latin America

Cabreuva, Brazil

#### Europe

Doel-Beveren, Belgium  
 Alizay, France  
 Sophia Antipolis, France  
 Marl, Germany  
 Zwijndrecht, Netherlands  
 Newton Aycliffe, UK  
 Poole, UK  
 Kidderminster, UK

#### Asia Pacific

Jiangmen, China  
 Nanjing, China  
 Luzhou, China (joint venture)  
 Suzhou, China (joint venture)

Bandage	ECG	Foot Care	Surgical	Wound dressing	Medical tapes	Medical Labels	Diagnostic	Typical Solids %	Typical Brookfield Viscosity at 77°F (cps)	180o Peel SS (24HR) PSTC-101 (N/25.4mm)	Ambient Static Shear 1in x 1in x 1000g (Hours)	Loop Tack (SS) (N/25.4mm)	Product Name
						●		69%	6500	9	12	11	FLEXcryl 165
						●		53%	800	7	24+	8	FLEXcryl GP-6W
						●		54%	900	10	24+	14	FLEXcryl LC-18
					○	●		53%	1700	22	6	18	Aroset APS 1135-1
					○	●		45%	900	24	24+	16	Aroset APS 1295
					○	●		60%	1300	27	1	16	Aroset APS 1325
					○	●		50%	2250	4	3	4	Aroset 2532
					○	●		49%	1500	0.5	5	5	Aroset 2555
					○	●		50%	1700	3	24+	5	Aroset 2570
					●	●		51%	2400	18	20	9	Aroset 3240
	●		●	●	●	●	●	58%	1300	25	4	17	Aroset 3250
				●	●		●	56%	2000	16	65	9	Aroset 3300
				●	●		●	56%	1000	16	65	9	Aroset 3312
					○	●		57%	1400	22	1	13	Aroset 3518
					○	●		58%	1500	18	10	13	Aroset 3561-1

Research and Development/Technical Service Centers

**North America**

Wilmington, Delaware\*  
Bridgewater, New Jersey\*

**Latin America**

Sao Paulo, Brazil  
Mexico City, Mexico

**Europe**

Paris, France  
Sophia Antipolis, France\*  
Dusseldorf, Germany\*  
Memmingen, Germany  
Barendrecht, Netherlands

\*R&D centers of excellence

## GLOBAL HEADQUARTERS

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always solving