

AMINO RESINS FOR COATINGS

MAPRENAL[®]
RESIMENE[®]



ABOUT US

Prefere Melamines is a proven leader in the field of Amino resins. Our roots date back to the melamine resin production facilities founded at the Cassella site in Frankfurt, Germany in 1935 and at the Monsanto site in Springfield, Massachusetts, USA in 1946.

Prefere Melamines produces a comprehensive range of melamines and benzoguanamine resins, in addition to additives for laminating and paper applications. We have a proven track record of delivering high quality products, innovative solutions and value to our customers. Our amino resins are used in the development of coatings, as well as in other technical and specialty applications.

We are positioned as one of the global leaders in the resins marketplace.

Our resins serve many applications, including automotive and industrial coatings, specialty paper, textiles (woven and non-woven), wood finishes and technical rubber and tire. Prefere Melamines has strategic manufacturing sites in Europe, North America, and Asia. Our primary focus is to create value for our customers, by continually improving product performance, processes, customer service, and most importantly, health, safety, and environmental initiatives.

For more information, please visit our business on our website www.prefere.com

OUR BRANDS FOR:

COATING/PAINT INDUSTRY

NON COATING APPLICATIONS/SEGMENTS

PRODUCTS	COATING/PAINT INDUSTRY						NON COATING APPLICATIONS/SEGMENTS					
	Automotive	Can	Coil	Metal	Plastic	Wood	Additives	Construction	Paper	Decorative Laminates	Fabrics & Textile	Tire
MAPRENAL®	✓	✓	✓	✓	✓	✓						
RESIMENE®	✓	✓	✓	✓	✓	✓					✓	✓
HYPERSAL®				✓			✓		✓	✓	✓	
MADURIT®							✓	✓	✓	✓	✓	



Low Formaldehyde



Low Temperature

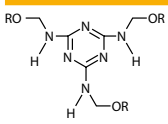
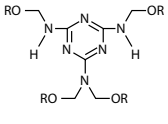
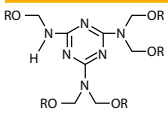
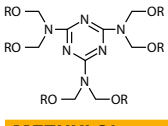
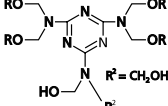


Low VOC

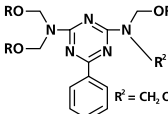
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MAPRENAL® & RESIMENE® AMINO CROSSLINKER RESINS

A) Melamine Formaldehyde (MF) Resins

	iB-Ether	nB-Ether	Me-Ether	Me / iB-Ether	Me / nB-Ether
TRI 	MF 580 / 55 iB MF 650 / 55 iB	BM 5901	R 717 R 718 AQ 7551 MF 920w / 75 WA	MF 927 / 70 iB	CE 1055 CE 1056 CE 1058 VMF 3935 / 70 B
TETRA 		VMF 3611 D / 70 B MF 612 / 70 B MF 613 / 71 B MF 618 / 76 B MF 600 / 55 iBB	AQ 2611 AQ 2609 HM 2608 R 719 MF 915 / 75 iB		CE 1050 LF CE 1053 CE 1057 LF CE 1062
PENTA* 			R 741*		R 757* R 758* CE 4514* R 764*
HEXA* 			R 745* R 747* MF 900w / 95*	MF 909*	R 751* R 755* CE 7103*
METHYLOL 	MF 517 / 60 iB MF 590 / 55 iBX MF 863 / 68 iB	R 895 MF 821 / 84 B R 750	R 730* R 735*		

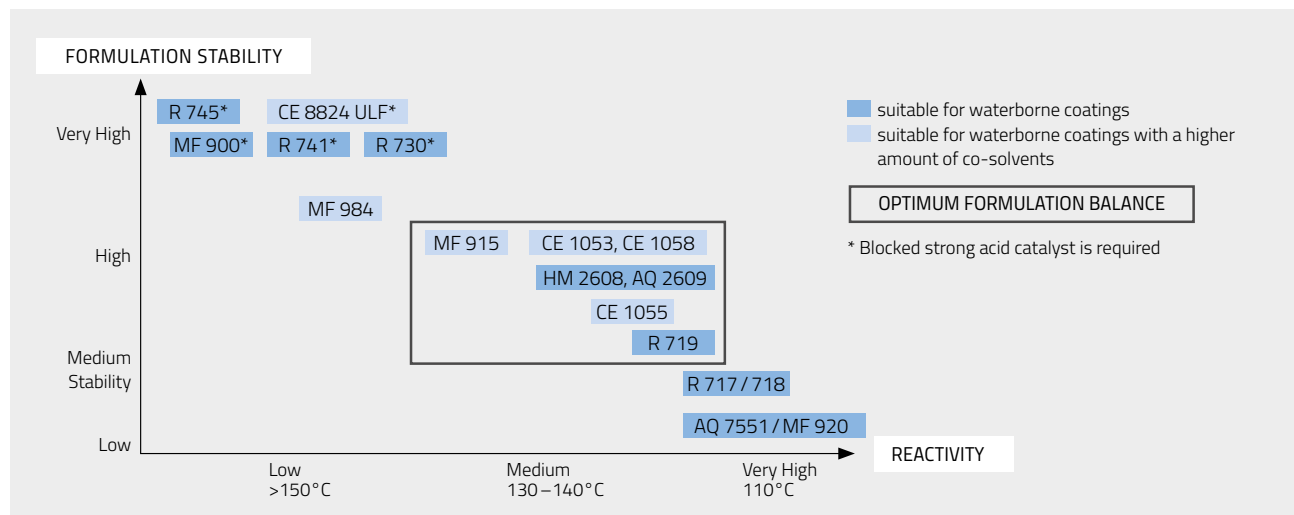
B) Benzoguanamine Formaldehyde (BF) Resins

	iB-Ether	nB-Ether	Me-Ether	Me / iB-Ether	Me / Et-Ether
BENZOGUANAMINE 		BF 891 / 77 SNB BF 892 / 68 B MF 988 LF / 80 B	BF 987 MF 984 / 80 B		CE 8824 ULF*

* Strong acid catalyst is required

■ MAPRENAL® and RESIMENE® suitable for waterborne coatings ■ MAPRENAL® and RESIMENE® suitable for waterborne coatings with a higher amount of co-solvents

MAPRENAL® & RESIMENE® FOR WATERBORNE PAINTS



Reactivity	Product	Type/Ether	Non-volatile content	Diluent	Viscosity	Free Formaldehyde
			%		mPa·s / cP	%

A-1) Methylated Melamine Resins

Very High	MAPRENAL MF 920	Tri-Me	75 – 77 ³	WA	450 – 950 ¹	≤ 0.60
	RESIMENE AQ 7551	Tri-Me	75 – 80 ⁴	WA	600 – 1500 ²	< 0.50
	RESIMENE 717	Tri-Me	82 – 86 ⁴	nB	3800 – 10670 ¹	< 1.00
	RESIMENE 718	Tri-Me	80 – 84 ⁴	iB	4300 – 10670 ¹	< 1.00
	Resimene 720 LF	Tri-Me	74 – 78 ⁴	nB	1000 – 2500 ¹	< 0.50
High	RESIMENE AQ 2609	Tetra-Me	86 – 90 ⁴	WA	1800 – 6500 ¹	< 0.60
	RESIMENE AQ 2611	Tetra-Me	81 – 84 ³	WA	1800 – 6500 ¹	< 0.30
	RESIMENE HM 2608	Tetra-Me	88 – 92 ⁴	iB	4900 – 13300 ²	≤ 0.80
	RESIMENE HM 2608 LF	Tetra-Me	88 – 92 ⁴	iB	5500 – 11500 ²	< 0.50
	RESIMENE 719	Tetra-Me	78 – 82 ⁴	iB	1000 – 3000 ¹	< 0.75
Medium	MAPRENAL MF 915	Tetra-Me	74 – 77 ³	iB	3000 – 6500 ¹	< 2.00
	RESIMENE 730*	Methylol-Me	88 – 92 ⁴	iP	4300 – 17600 ²	≤ 2.00
	RESIMENE 735*	Methylol-Me	78 – 82 ⁴	iP	625 – 1125 ²	< 2.00
Low*	MAPRENAL MF 900*	Hexa-Me	93 – 96 ³	no solvent	4500 – 7200 ¹	< 0.50
	RESIMENE 741*	Penta-Me	86 – 90 ⁴	iP	1250 – 5425 ²	≤ 0.40
	RESIMENE 745*	Hexa-Me	> 98 ⁴	no solvent	2100 – 4350 ²	< 0.20
	RESIMENE 747*	Hexa-Me	> 98 ⁴	no solvent	2100 – 4650 ²	≤ 0.15
	RESIMENE 747 ULF*	Hexa-Me	> 98 ⁴	no solvent	2100 – 4650 ²	< 0.10

A-2) Coetherified Melamine Resins

Very High	MAPRENAL MF 927	Tri-Me / iB = 65 / 35	69 – 71 ³	iB	1100 – 3900 ¹	< 0.50
	MAPRENAL VMF 3935	Tri-Me / nB = 55 / 45	69 – 71 ³	nB	1300 – 2300 ¹	< 0.20
	RESIMENE CE 1055	Tri-Me / nB = 45 / 55	68 – 72 ³	nB	2000 – 3500 ¹	< 1.00
	RESIMENE CE 1056	Tri-Me / iB = 65 / 35	68 – 72 ³	nB	1000 – 2500 ¹	< 1.00
High	RESIMENE CE 1053	Tetra-Me / nB = 45 / 55	69 – 71 ³	nB	400 – 1000 ¹	< 0.50
	RESIMENE CE 1058	Tri-Me / nB = 35 / 65	69 – 72 ³	nB	3000 – 5000 ¹	< 0.50
	RESIMENE CE 1062	Tetra-Me / nB = 55 / 45	80 – 84 ⁴	nB	2800 – 6000 ²	≤ 0.60
Medium	RESIMENE CE 1057 LF	Tetra-Me / nB = 55 / 45	74 – 80 ³	2EH	2000 – 5000 ¹	< 0.25
Low*	MAPRENAL MF 909*	Hexa-Me / iB = 70 / 30	91 – 95 ³	iB	1000 – 2000 ²	< 0.10
	RESIMENE CE 4514*	Penta-Me / nB = 55 / 45	92 – 96 ⁴	nB	1200 – 4000 ²	≤ 0.35
	RESIMENE CE 7103*	Hexa-Me / nB = 90 / 10	> 98 ⁴	no solvent	430 – 640 ²	≤ 0.03
	RESIMENE 751*	Hexa-Me / nB = 45 / 55	> 98 ⁴	no solvent	290 – 400 ²	< 0.10
	RESIMENE 755*	Hexa-Me / nB = 60 / 40	> 98 ⁴	no solvent	600 – 1175 ²	< 0.10
	RESIMENE 757*	Penta-Me / nB = 75 / 25	> 97 ⁴	nB	2600 – 5300 ²	< 0.10
	RESIMENE 758*	Penta-Me / nB = 75 / 25	> 97 ⁴	no solvent	2500 – 5000 ²	≤ 0.15
	RESIMENE 764*	Penta-Me / nB = 20 / 80	> 98 ⁴	no solvent	700 – 1800 ²	< 0.10

* Strong acid catalyst is required

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Remark: – Index 1 = 23 °C
– Index 2 = 25 °C
– Index 3 = 1 hr / 120 °C
– Index 4 = Foil / 45 min / 45 °C
– Index 5 = Foil / 60 min / 90 °C

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Reactivity	Product	Type/Ether	Non-volatile content	Diluent	Viscosity	Free Formaldehyde
			%		mPa·s / cP	%

A-3) iso-Butylated Melamine Resins

Very High	MAPRENAL MF 518	Methylol-iB	59 – 61 ³	iB	850 – 1550 ¹	< 1.50
	MAPRENAL MF 580	Tri-iB	54 – 56 ³	iB	750 – 1500 ¹	< 0.60
	MAPRENAL MF 590	Methylol-iB	54 – 56 ³	iB/X	260 – 460 ¹	< 2.00
High	MAPRENAL MF 650	Tri-iB	54 – 56 ³	iB	300 – 500 ¹	< 0.60
	MAPRENAL MF 863	Methylol-iB	66 – 70 ⁵	iB	9000 – 13000 ¹	< 1.50

A-4) n-Butylated Melamine Resins

Very High	RESIMENE BM 5901	Tri-nB	78 – 82 ⁴	nB	3300 – 10700 ¹	< 0.50
High	MAPRENAL MF 600	Tetra-nB/iB	54 – 56 ³	iB/nB	260 – 460 ¹	< 1.00
	MAPRENAL MF 612	Tetra-nB	68 – 72 ³	nB	900 – 2400 ¹	< 0.50
	MAPRENAL VMF 3611D	Tetra-nB	68 – 72 ³	nB	900 – 2400 ¹	< 1.00
High-medium	MAPRENAL MF 613	Tetra-nB	69 – 73 ³	nB	1100 – 1700 ¹	< 0.40
	MAPRENAL MF 618	Tetra-nB	75 – 77 ³	nB	2000 – 7000 ¹	< 0.50
	RESIMENE 750	Tetra-nB	78 – 82 ⁴	nB	3200 – 9800 ¹	< 1.00
Medium	MAPRENAL MF 821	Methylol-nB	82 – 84 ⁵	nB	11000 – 16500 ¹	< 0.50
	RESIMENE 895	Methylol-nB	62 – 66 ³	X	300 – 650 ¹	< 0.50

B-1) n-Butylated Benzoguanamine Resins

High	MAPRENAL BF 891	Methylol-nB	75 – 79 ³	SNB	10000 – 18000 ¹	< 0.50
	MAPRENAL BF 892	Methylol-nB	66 – 70 ³	nB	450 – 650 ¹	< 0.70
	MAPRENAL MF 988 LF	Tri-nB	78 – 82 ³	nB	5000 – 10000 ¹	< 0.70

B-2) Methylated Benzoguanamine Resins

Medium	MAPRENAL BF 987	Tri-Me	72 – 76 ³	2EH	1000 – 2500 ¹	< 0.25
	MAPRENAL MF 984	Tri-Me	78 – 82 ³	nB	1000 – 2000 ¹	< 1.00
Low*	RESIMENE CE 8824 ULF*	Tetra-Me/Et	> 98 ³	no solvent	7500 – 13500 ¹	< 0.10

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Methylated	Performance Properties	Butylated
◀	Water Solubility	
◀	Polarity	
◀	Cure Response	
◀	Hardness	
◀	Solvent Resistance	
◀	Weight Retention (on Cure)	
	VOC (on Cure)	▶
	Wetting, Flow, Leveling	▶
	Viscosity	▶
	Recoat Adhesion	▶
	Exterior Durability	▶
	Corrosion / Humidity Resistance	▶
	Resistivity	▶
	Formulation Stability	▶

Abbreviations

2EH = 2-Ethylhexanol	iB = iso-Butanol, iso-Butyl
B & nB = n-Butanol, n-Butyl	Me = Methanol, Methyl
Et = Ethanol, Ethyl	SNB = Solvent Naphta Butanol
FF = Free Formaldehyde	WA = Water
iP = iso-Propanol	X = Xylene

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