



Amino Crosslinkers for COATINGS
Melamine & Benzoguanamine Resins

MAPRENAL®

RESIMENE®

Prefere Resins – Snapshot

- 600 employees
- € 500 million turnover
- 14 manufacturing sites
- Capacity of about 600,000 mt

prefere
melamines



prefere
paraform



prefere
phenolics



Preferre Melamines – Snapshot

- 140 employees
- € 130 million turnover
- 3 manufacturing sites





AUTOMOTIVE

Full range of high performing melamine resins for Automotive OEM, Wheel Coatings and Automotive Filtration Systems.

Highly etherified melamine resins available as liquid or powder resins (coated on a silica carrier) for the Tire Industry.



GENERAL INDUSTRIAL

Comprehensive portfolio of melamine and benzoguanamine crosslinkers suitable for Can and Container Coatings. Waterborne melamine resins and additives for Paint, Paper and Textile (woven and nonwoven) applications. Highly etherified melamine resins available as liquid or powder resins (coated on a silica carrier) for Technical Rubber goods.



CONSTRUCTION

Perfectly balanced selection of melamine resins used in the field of Coil Coatings (e.g., metal rooftops).

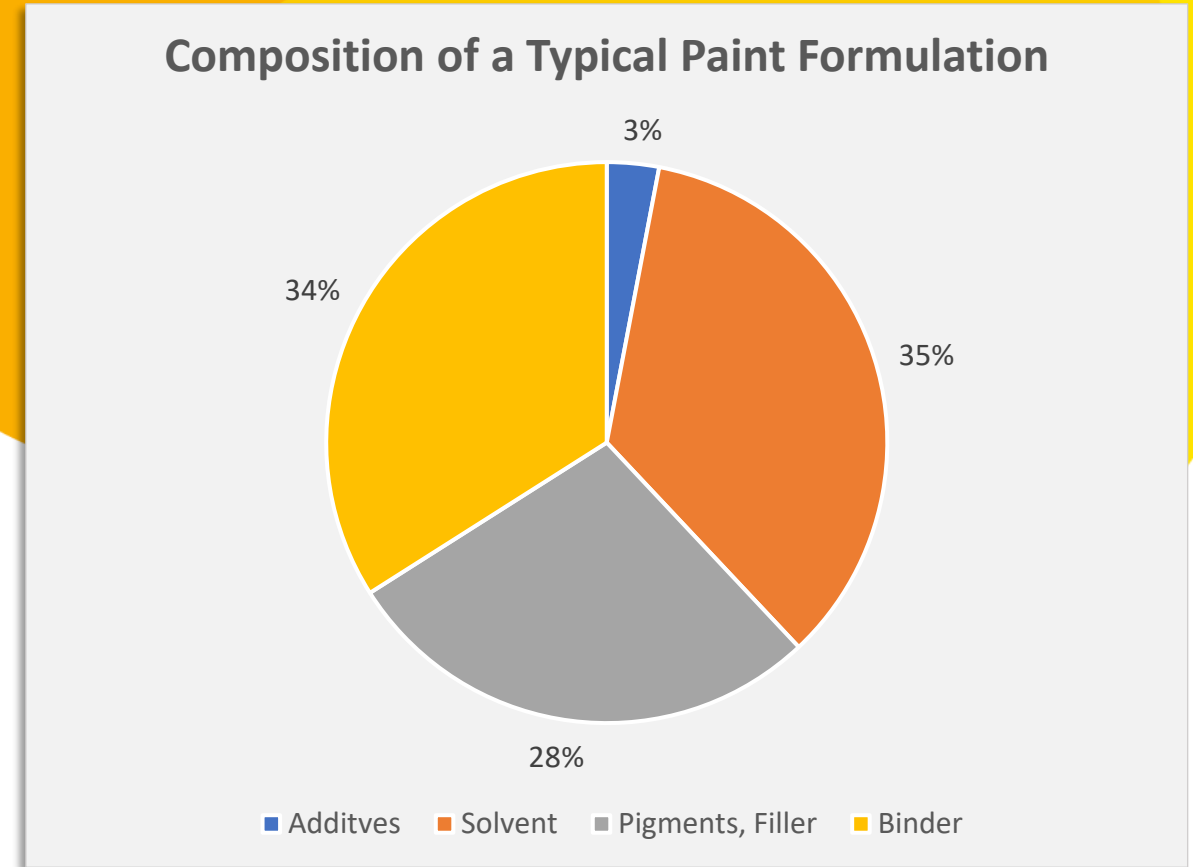
Waterborne resins and aligned additives (hardeners, wetting & release agents) for the Flooring and Furniture Industry (e.g., Laminate Flooring, Partitions, Edge bandings and Foil Coatings).

Coatings Application (1)

Amino Resins are combined with so called main binder or vehicle resins, such as:

- a) Alkyd
- b) Acrylic
- c) Polyurethane
- d) Polyester
- e) Epoxy Resins

together with pigments, solvents and additives.



Coatings Application (2)

Amino Resins are used in paints to:

- ✓ Improve film formation
- ✓ Crosslink the main binder resin under heat and/or acidic conditions
- ✓ Form a thermoset coating
- ✓ Reduce costs (vs. isocyanate crosslinkers)

Thermoset coatings improve:

- ✓ Appearance
- ✓ Toughness
- ✓ Hardness
- ✓ Scratch resistance
- ✓ Chemical, weather & stain resistance

Amino Resins are able to crosslink

- ✓ in a co-condensation reaction with vehicle resins
- ✓ in a self-condensation reaction simultaneously

Coatings Application (3)

Melamine + Formaldehyde + Alcohol



56 possible monomeric products + oligomers

Synthesis/Reaction variables are classified as

- Combining Ratios (M/F/Alcohol)
- Type of Alcohol
- Molecular Weight Distribution
- Functional Groups

An amino resin is always a mixture of a large number of different molecules

- Average numbers are provided for characterization
- Average molecular weight, average F/M ratio, ...

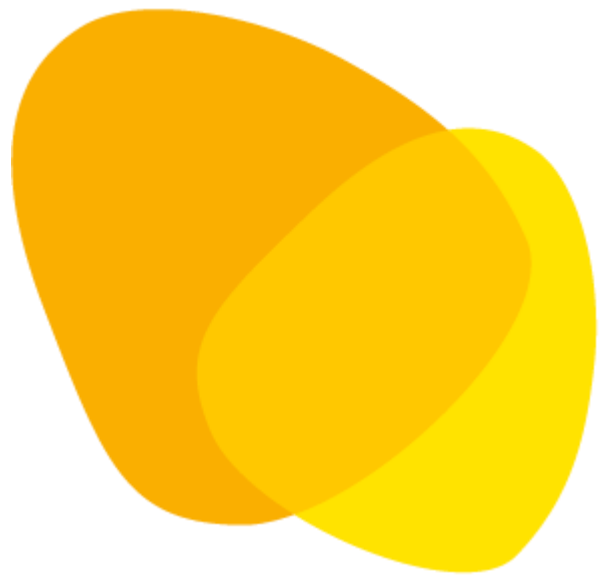
Categorization

- 5 different substructures
- Alcohol type



See our most recent Coatings Brochure





Automotive

Coatings



Automotive OEM Coatings (1)

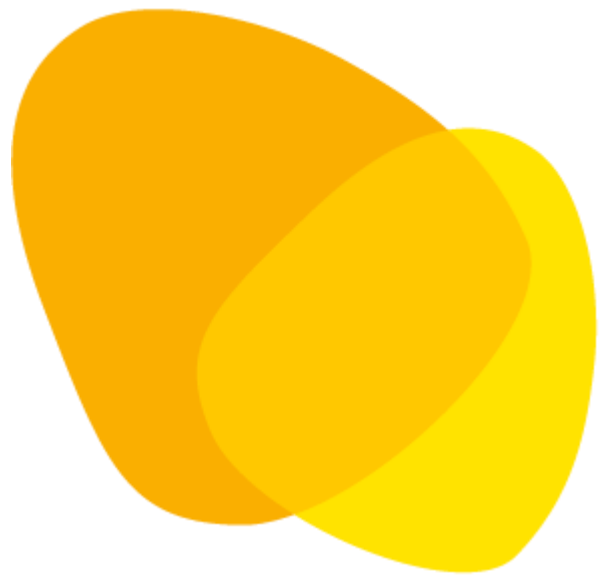
	FUNCTION	AMINO RESIN	PREFERE Melamines
Clearcoat	Chemical Resistance Gloss	Yes	MAPRENAL MF 613 RESIMENE CE 7504 ULF *
Basecoat	Color & Effect	Yes	RESIMENE HM 2608 LF RESIMENE 720 LF *
Primer	Chip Protection Appearance	Yes	RESIMENE 747 ULF RESIMENE BM 5901
E-Coat	Corrosion Protection	No	-
Pre-Treatment	Pre Treatment	No	-
Substrate	Substrate	No	-

** New Products*

Automotive OEM Coatings (2)

LAYER	S / W	Type	PREFERE Melamines		
CLEARCOAT	Solventborne	n-Butyl	MAPRENAL	MF 612	MF 613
		Co-Ether	RESIMENE	CE 1062	CE 7504 ULF*
BASECOAT & MONOLAYER TOPCOAT	Solventborne	iso-Butyl	MAPRENAL	MF 650	
		Co-Ether	RESIMENE	755	
	Waterborne	Methyl	RESIMENE	HM 2608 LF	720 LF*
		Co-Ether	RESIMENE	CE 1053	
		HMMM	MAPRENAL	MF 900	
PRIMER	Solventborne	n-Butyl	RESIMENE	BM 5901	
		Co-Ether	RESIMENE	CE 1062	
	Waterborne	Methyl	RESIMENE	HM 2608 LF	
		HMMM	RESIMENE	747 ULF	

** New Products*



Packaging

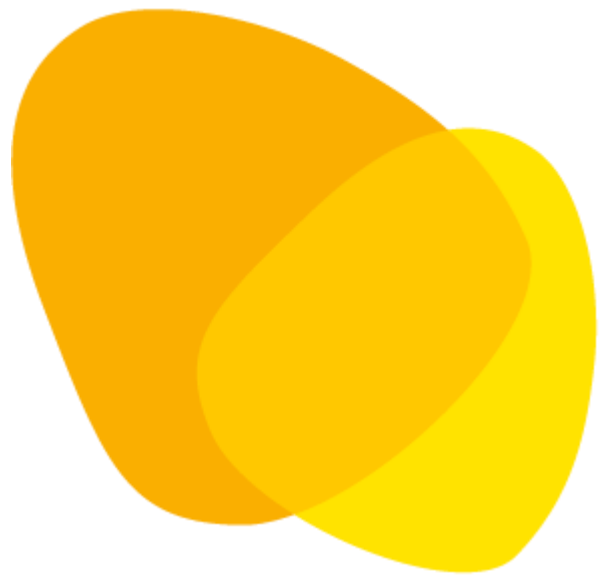
Coatings



Packaging Coatings

RESIN	S / W	Type	PREFERE Melamines		
MELAMINE RESINS	Solventborne	Methyl	RESIMENE	HM 2608 LF	720 LF*
		n-Butyl	MAPRENAL	MF 821	
	Waterborne	Methyl	RESIMENE	HM 2608 LF	720 LF*
		HMMM	RESIMENE	747 ULF	
BENZOGUANAMINE RESINS	Solventborne	Methyl	RESIMENE	CE 8824 ULF	
		n-Butyl	MAPRENAL	BF 892 ULF*	MF 988 LF
	Waterborne	Methyl	MAPRENAL	BF 987	
		HMMM	RESIMENE	CE 8824 ULF	

** New Products*



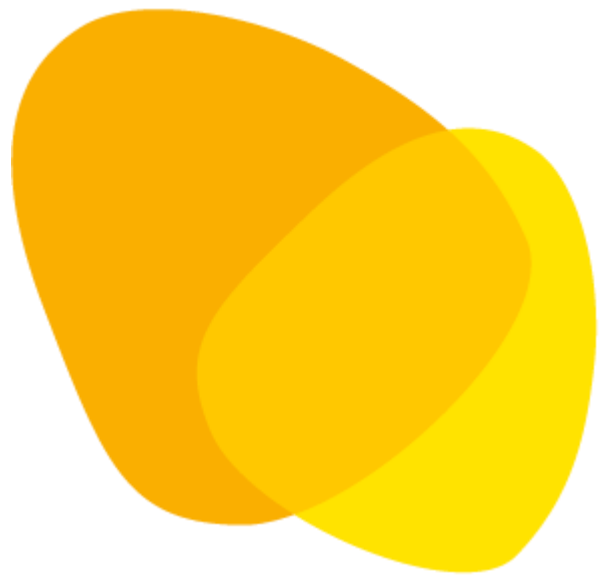
Industrial --- Coatings



Industrial Coatings

APPLICATION	S / W	Type	PREFERE Melamines		
AED Coatings (Anodic Electrodeposition)	Waterborne	Co-Ether	RESIMENE	755	CE 7504 ULF*
GENERAL INDUSTRIAL	Solventborne	n-Butyl	MAPRENAL	MF 612	
		Methyl	RESIMENE	HM 2608 LF	720 LF*
		HMMM	RESIMENE	747 ULF	
	Waterborne	Methyl	RESIMENE	HM 2608 LF	720 LF*
		HMMM	RESIMENE	747 ULF	
ACID CURED COATINGS	Waterborne	Methyl	RESIMENE	AQ 2609	AQ 2611
		HMMM	MAPRENAL	MF 900	

** New Products*



New

Products



MAPRENAL BF 892 ULF



- MAPRENAL BF 892 ULF is the **ultra-low formaldehyde** version of MAPRENAL BF 892
- The combination of high reactivity and ultra-low formaldehyde is **unique** in the market
- Various coating tests have shown identical or slightly **better performance** than MAPRENAL BF 892
- MAPRENAL BF 892 ULF can potentially **replace** MAPRENAL BF 891
- Main difference is the solvent: **2-ethylhexanol** instead of butanol
- MAPRENAL BF 892 ULF allows **coatings** formulations with **extremely low formaldehyde (< 0.02%)**
- Main applications are solvent-borne, **interior coatings for food cans**

Benefits:

- ✓ Ultra Low Formaldehyde
- ✓ High Reactivity

RESIMENE 720 LF

- RESIMENE 720 LF is an **improved alternative** to RESIMENE 717 with lower viscosity and a **low formaldehyde content (< 0.5%)**.
- In coating application tests, it has shown same or higher reactivity than RESIMENE 717 and RESIMENE HM-2608. Cure **temperatures of 110°C** are possible, depending on binder resin and technical requirements.
- RESIMENE 720 LF is **already established** in formulations for drum coatings.
- RESIMENE 720 LF can be used in **multiple applications**: Solvent- and Water-borne Coatings, Automotive, Coil, Can, Mirror, Packaging and other Industrial Coatings.

Benefits:

- ✓ Versatility
- ✓ High Reactivity
- ✓ High Coating Stability
- ✓ Low Free Formaldehyde

RESIMENE CE 7504 ULF

- RESIMENE CE 7504 ULF can be used for **automotive clear coats** combined with acrylic binder resins
- The composition is similar to RESIMENE 755 but contains **iso-butanol** instead of n-butanol
- In coating application tests RESIMENE CE 7504 ULF has shown **higher flexibility and recoat adhesion** than the same formulation with RESIMENE 747

Benefits:

- ✓ Excellent appearance
- ✓ Chemical Resistance
- ✓ Recoatability
- ✓ Ultra Low Formaldehyde Content

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