

ELEMENTIS

A laboratory setting featuring three pieces of glassware on a reflective surface. On the left is a 500 mL Erlenmeyer flask containing a yellow-green liquid. In the center is a 300 mL beaker containing clear water with a green plant stem submerged. On the right is a smaller beaker containing a yellow-green liquid. The background is a light blue gradient.

# **Adding future** with Performance Specialties additive solutions

Asia

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# About ELEMENTIS

Elementis is a leading global supplier of specialty chemicals, delivering essential attributes to a wide range of industries. We provide rheology modifiers and complementary specialty additives to manufacturers of industrial coatings, decorative paints, inks, construction solutions, adhesives and sealants, ceramics, water treatment and oil and gas drilling fluids.

Innovation and sustainability are at the core of our operations. We focus on creating solutions that enhance performance and sustainability for our customers. Our technology addresses performance needs through rheological additives, wetting and dispersing agents, defoamers, adhesion promoters, and other performance-enhancing additives. Our globally recognized brands, such as BENTONE®, RHEOLATE®, THIXATROL®, THIXCIN®, BENAQUA®, CHARGUARD™, M-P-A®, DAPRO®, NUOSPERSE®, HYPOMER and BENATHIX® reflect our commitment to quality and innovation.

We work closely with our customers to develop tomorrow’s solutions for bio-based, waterborne, solventborne, and solvent-free systems, enhancing the appearance, feel, workability and stability of their products.

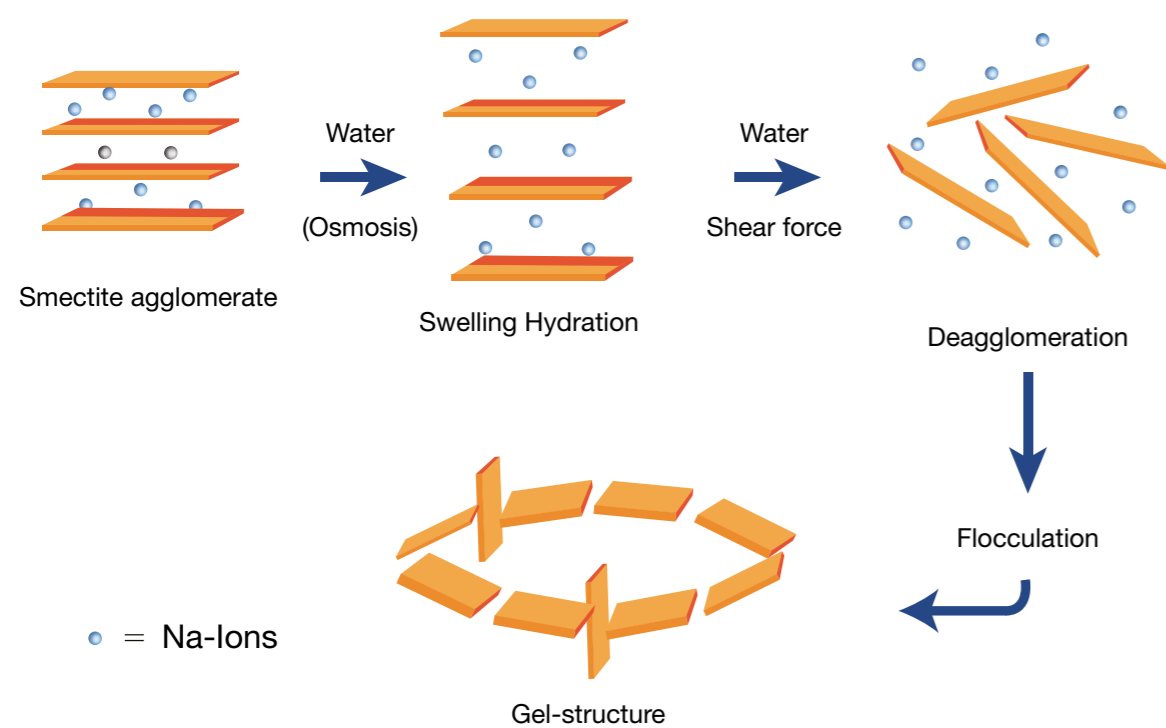
We continue to leverage our expertise in high-performing ingredients to boost our customers’ product performance and introduce new technologies to the markets we serve.

Aqueous Systems	Non-Aqueous Systems
Rheological additives	
BENTONE® & BENAQUA® (natural clay-based)	BENTONE®, BENATHIX & BENGEL® (organoclays)
RHEOLATE® & DeuRheo (NiSAT, ASE & HASE)	THIXCIN® & THIXATROL®
THIXATROL® (PA wax & EVA wax dispersion)	DeuRheo & M-P-A®
Dispersing and Wetting	
NUOSPERSE® & Disponer	NUOSPERSE® & Disponer
Defoamers	
DAPRO® & Defom	DAPRO® & Defom
Slip and leveling additives	
SLIP-AYD®, Levelol & SUPREAD™	SLIP-AYD®, Levelol & Levaslip
Specialty additives	
NALZIN®	Adherent
DAPRO®	Catacure
DeuAdd	DeuAdd
Hydroxyl acrylic resins	
	Hypomer

## Rheology Modifiers

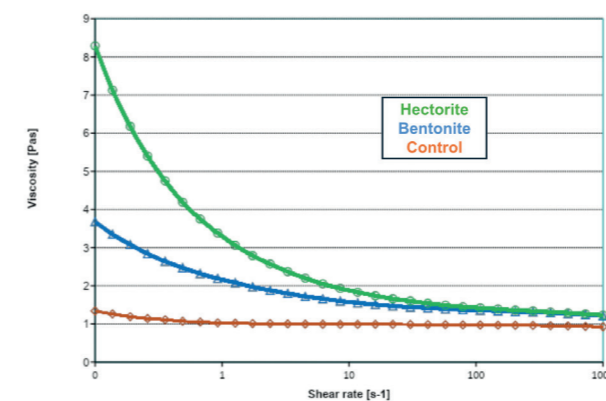
### BENTONE® Clays for aqueous systems

Hectorite, a naturally occurring clay mineral, is particularly notable for its unique properties and efficiency as a rheology modifier. It is a lithium magnesium silicate that swells due to the hydration of sodium ions located on the clay platelets, which push the platelets apart and allow the clay to form a gel-like structure.



Hectorite's distinctive platelet shape and high surface area make it exceptionally effective in building viscosity and structure, thus providing excellent sag control and suspension properties in WB systems.

Due to the much smaller particle size of the hectorite (compared to bentonite) the pseudoplasticity created in a system is much stronger and BENTONE® hectorites are more efficient:



### BENTONE® clays benefits:

- Long-term rheological stability of the formulation
- Film/ bead (thickness) control
- Suspension of particles resulting in homogeneous matrix and smooth surfaces
- Workability - improved spray process/ extrusion
- In construction products: improved sag/slump resistance, less pumping pressure necessary, easier cleaning of application tools and reduced stickiness when (partially) replacing cellulose
- Hectorite is a material of natural origin and we use environmentally friendly extraction procedures and strict zero waste and circular policy in cleaning and milling procedures.



Without clay



With clay

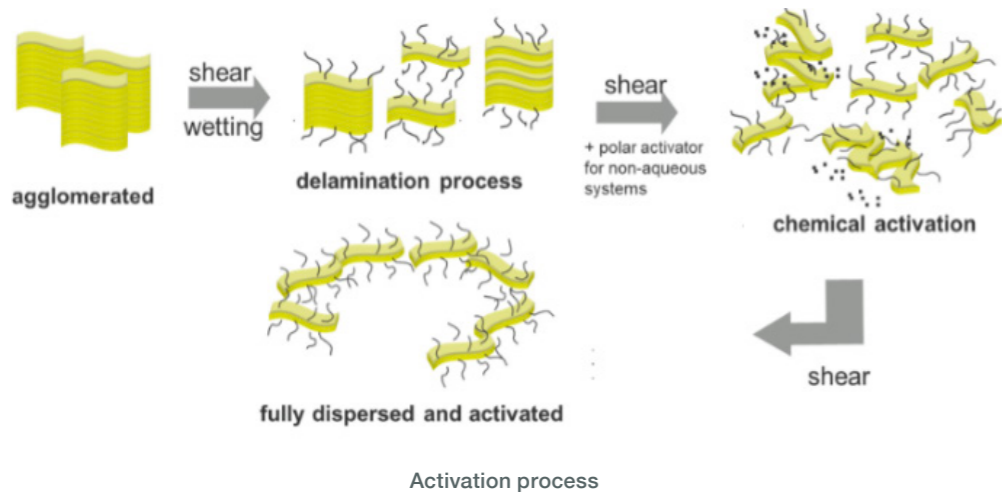
Product Name	Composition	Description	Solventborne	Waterborne	Application																				Shear Rate				
					Architectural coatings					Industrial coatings							Construction					Others							
					Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete coating	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Inks	Leather coatings	Water treatments	Low	Medium
BENAQUA® 4000	Modified smectite clay	Hectorite clay-polymer for textured, spray applied and high build coatings.		•	•		•			•									•				•				•		
BENAQUA® 5000	Modified smectite clay	Hectorite clay composite for adhesives and grouts.		•															•	•			•				•		
BENTONE® DE	Modified smectite clay	Hyperdispersible hectorite clay for waterborne decorative and industrial coatings.		•							•	•	•	•	•	•	•					◦		◦		•	•		
BENTONE® DY	Modified smectite clay	Modified clay to improve sag resistance and flow in waterborne systems.		•	•		•	•			•	•	•	•	•	•	•	•									•	◦	
BENTONE® EW NA	Modified smectite clay	Hectorite clay for suspension control for waterborne systems.		•	•	◦	•	•	•	•	•	•	•	•	•	•	•	•			•		•	•	•	•	•		
BENTONE® GS	Modified smectite clay	Hectorite clay for waterborne adhesives/sealants and construction systems.		•	•													•		•	•	•	•	•				•	
BENTONE® HC	Modified smectite clay	Refined hectorite for waterborne adhesives, sealants, high PVC emulsion paints, water treatment, etc.		•		◦													•	•	•			•			•	•	
BENTONE® HD	Modified smectite clay	Hyperdispersible hectorite clay for industrial coatings.		•										•		•										•	•		
BENTONE® LT	Modified smectite clay	Modified hectorite clay for waterborne paints.		•		•			•	•	•	•	•	•	•	•	•						•	•	•		•	•	
BENTONE® CT	Smectite clay	Hectorite clay for waterborne construction systems, 50% active.		•	•					•									•	•						•	•		
BENTONE® OC	Smectite clay	Hectorite clay for waterborne construction systems, 50% active		•	•					•									•	•						•	•		
BENTONE® WBS	Smectite clay	Recommended for plasters, mortars and renderings based on lime, cement and gypsum.		•	•	◦	•		◦										•	•	•		•				•		

● Highly recommended   ○ Recommended

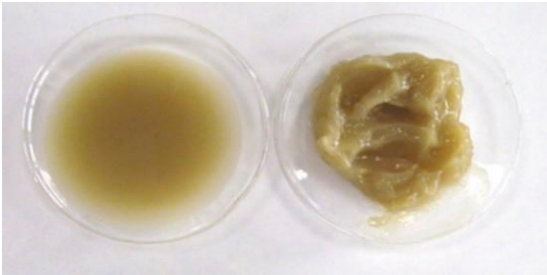


### BENTONE® Organoclays for non-aqueous systems

Hectorite modified with quaternary ammonium compounds becomes an organoclay suitable for solvent-borne systems. This modification process transforms the hydrophilic nature of the clay into a more organophilic (oil-loving) form, making it highly effective and versatile additive for various non-aqueous formulations.



- BENTONE® organoclays benefits:
- Enhanced stability (e.g. anti-sedimentation)
  - Film/ bead (thickness) control
  - Suspension of particles resulting in homogeneous matrix and smooth surfaces
  - Enhanced workability (spray/ extrusion)
  - Orientation of effect pigments
  - In powder coating applications: uniform edge coverage, texture effects possible and improved bulk flow and corrosion resistance
  - For activation at low-shear forces, we offer super dispersible grades, such as BENTONE SD®



Pregel without/ with polar activator

### Solvent compatibility

Organoclays are compatible with most resin systems, including acrylics, epoxies, and polyurethane. The choice of BENTONE® and BENGEL® additives depends on the solvent and the resin used in the system. BENTONE® and BENGEL® rheological additives are available in conventional and super dispersible form for easier incorporation.

Product type	Low Polarity systems	Mid polarity systems	High Polarity Systems	Activation	
	Aliphatic Solvents, Mineral Spirits, Isopars, Naphtha, etc.	Aromatic and Hydrocarbon Solvents, Xylene, Toluene, etc.	Aldehydes, Acetates, Alcohols, Esters, Ethers, Glycols, Ketones.	Polar activator required	Easy to disperse
Conventional type	BENTONE® 34, BENTONE® 1000, BENGEL® 434, BENGEL® 908			•	
	BENTONE® 52, BENTONE® 38*			•	
			BENTONE® 27*, BENTONE® 57	•	
Easy dispersible type	BENGEL® 818				•
			BENGEL® 828		•
	BENGEL® 958, BENTONE® 54				•
	BENGEL® 988				•
Super dispersible type	BENTONE SD® -1				•
	BENTONE SD® -3*				•
			BENTONE SD® -2, BENATHIX®		•

\* Hectorite-based

BENTONE® and BENGEL® organoclays

Product name	Composition	Description	Solventborne	Waterborne	Application														Polarity			
					Deco	Industrial coatings								Construction		Others						
					Long-oil alkyds	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt	Roof coatings	Adhesives and sealants	Inks	Leather coatings	Low	Medium	High	
BARAGEL® 3000	Organoclay	Organically modified bentone clay for low polarity systems.	•			•				•				•	•	•	•		•			
BENATHIX®	Organoclay	Easy to disperse modified smectite clay for unsaturated polyester, plastisols and putties.	•														•			•		
BENGEL® 434	Organoclay	Conventional organoclay for wide range of low polarity systems.	•						◦		•	•	•	•			•	•		•		
BENGEL® 818	Organoclay	Organoclay for low polarity applications.	•						◦	•	•	•	•				•	•		•		
BENGEL® 828	Organoclay	Super dispersible rheological additive that greatly simplifies the formulation and manufacture of paint systems that contain moderate to high polarity solvents.	•							•	•	•	•				•	•				•
BENGEL® 908	Organoclay	General purpose and highly cost effective organoclay designed for low to medium polarity aliphatic and aromatic coating systems. It also works well in other high polarity systems.	•							•	•		•				•	•		•	•	
BENGEL® 958	Organoclay	A grade that is easy to disperse and provides good thixotropy, sag resistance, and anti-settling properties. It is recommended to be used in diverse low to medium polarity binders and solvent systems.	•			•	◦	◦	•	◦	•	•	◦	◦		•	•	•		•	•	
BENGEL® 968	Organoclay	Designed for low to medium polarity coating systems. It can be used for versatile coating applications and provides good compatibility, viscosity increase as well as anti-settling properties.	•							•	◦	◦	•							•	•	
BENGEL® 988	Organoclay	Easy to incorporate and designed for use in low to high polarity system containing aliphatic solvents, aromatic solvents. ketones, esters, glycol ethers and alcohols.	•				◦	◦	◦	◦	•	•	•	•						•	•	•
BENTONE SD® -1	Organoclay	Super dispersible organoclay for low polarity applications.	•			•	•	•	•	•	•	•	•		•		•	•		•		
BENTONE SD® -2	Organoclay	Super dispersible organoclay for high polarity applications.	•				•	•	•	•	•	•	•				•	•				•
BENTONE SD® -3	Organoclay	Super dispersible hectorite-based organoclay for intermediate polarity applications.	•				•	◦	◦	◦	•	◦	◦	◦			•	•			•	
BENTONE® 1000	Organoclay	High performance organoclay for low to intermediate polarity systems.	•			•	•				•			•			•	•		•		
BENTONE® 27	Organoclay	Conventional hectorite-based organoclay for high polarity systems, polyol, epoxy, etc.	•				•	•	•	•	•	•	•				•	•	•			•
BENTONE® 34	Organoclay	Conventional organoclay for wide range of low polarity solvent systems.	•			•	◦	◦	◦	◦	•	•	•	•	•	•	•	•		•		
BENTONE® 38	Organoclay	Conventional hectorite-based organoclay for intermediate polarity organic solvent systems.	•				•	•	•	•	•	•	◦	•			•	•		•	•	
BENTONE® 52	Organoclay	Conventional organoclay for intermediate polarity solvent systems.	•					◦	◦		•	•	•	◦				◦		•	•	
BENTONE® 54	Organoclay	Easy to disperse organoclay for low to mid-polarity solvent systems.	•			•			•			•		•	•	◦		•		•	•	
BENTONE® 57	Organoclay	Conventional organoclay for high-polarity solvent systems.	•								•	•					•					•
BENTONE® 54K	Organoclay	Easy to disperse organoclay for low to intermediate polarity organic systems.	•				◦	◦	•	◦	•	•	◦	◦			•			•	•	

• Highly recommended   ◦ Recommended



RHEOLATE® NiSAT - nonionic synthetic associative thickeners for aqueous systems

One of the most significant advantages of ELEMENTIS wide range of RHEOLATE® NiSAT thickeners is their versatility, offering the ability to design tailor-made rheology profiles, catering to different shear conditions — low, mid, and high shear.

Being non-ionic, they can be used across a broad pH spectrum, making them suitable for a wide range of formulations. These rheological additives do not require special activation and can be added at various stages of the production process.

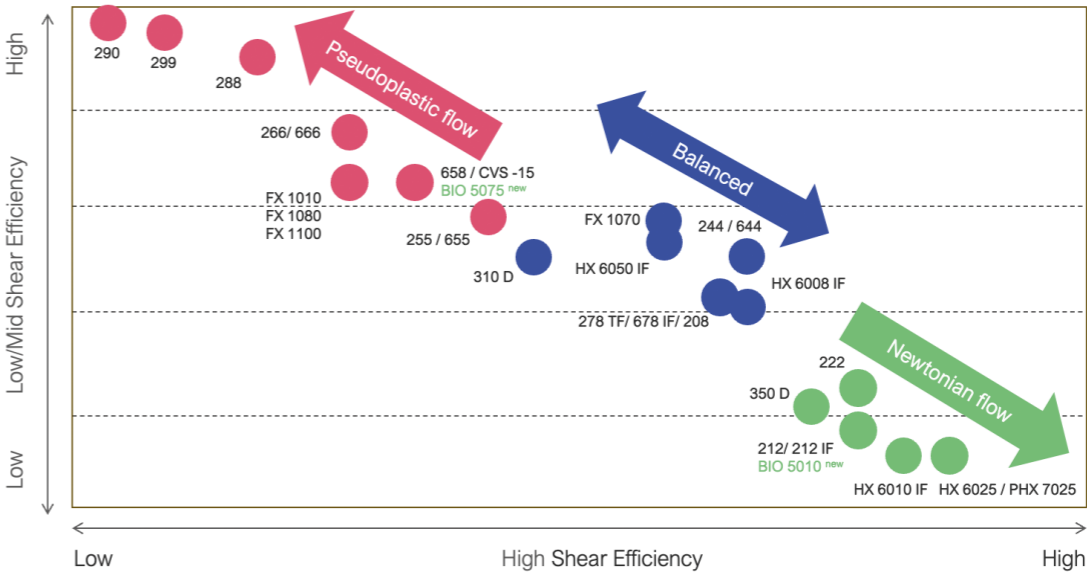
The NiSAT technology can be used alone or in combination with other RHEOLATE® or BENTONE® products.

RHEOLATE® NiSAT benefits:

Broad range of RHEOLATE® NiSAT for different application techniques to achieve optimum application properties:

- Enhanced spatter resistance, hiding power and sag resistance
- Perfect levelling and adequate transfer to substrate
- Improved atomization/ creation of very fine droplets
- Uniform film thickness
- Suitable for systems with pH 2-12
- No negative impact on water resistance and corrosion resistance
- RHEOLATE® Powder NiSAT with 100% active content for improved sustainability
- RHEOLATE® BIO NiSAT with > 90% Bio-based carbon content certified

RHEOLATE® BIO NiSAT benefits	RHEOLATE® POWDER NiSAT benefits
>90% bio-based carbon content	Powder form (100% active)
Low odor	Higher efficiency compared to liquid counterpart
High film builds with outstanding flow & leveling	Preservative-free
Compatible with all resin systems	Surfactant-free
Easy incorporation and use	No specific activation necessary
Good storage stability	Suitable for modular production process
	No risk of freezing
	Lower transport volumes – fuel savings



RHEOLATE® thickeners

Product Name	Composition	Description	Solventborne	Waterborne	Application																				Shear Rate			
					Architectural coatings					Industrial coatings						Construction					Others							
					Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete coating	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Inks	Leather coatings	Low	Medium	High
Nonionic associative thickeners (NISAT)																												
RHEOLATE CVS® -10	Polyurethane solution	Excellent low-mid shear viscosity builder, provides good balance of sag, flow and leveling, reduced viscosity loss on tinting, excellent color properties and syneresis control.		•	•		•	•	•				•					•		•			•	•		•	◦	
RHEOLATE CVS® -15	Polyurethane solution	Highly efficient, zero VOC , mid-shear viscosity builder with minimum KU drop upon tinting.		•	•		•	•	•	•	•		•	•	•	•		•		•	•		•	•		•	◦	
RHEOLATE® 212	Polyurethane solution	Excellent high-shear viscosity builder. Highly Newtonian profile with little influence on mid-shear viscosity. Used often in combination with RHEOLATE® 666, RHEOLATE® 655, or RHEOLATE CVS® thickeners for ideal balance of properties.		•	•	◦	•	◦	◦	•	•	•	•	•	•	•		•			•		•	◦				•
RHEOLATE® 212 IF	Polyurethane solution	Isothiazolinone (BIT/CMIT/MIT)-free version of RHEOLATE® 212.		•	•	◦	•	◦	◦	•	•	•	•	•	•	•		•			•		•	◦				•
RHEOLATE® 222	Polyurethane solution	Highly efficient high-shear viscosity builder for aqueous applications, provides excellent flow and levelling.		•	•	◦	•	◦	◦	•	•	•	•	•	•	•		•			•		•	◦				•
RHEOLATE® 244	Polyurethane solution	Good high-shear viscosity build. Higher KU build in small particle-size binders than RHEOLATE® 212. Best balance of KU/ICI viscosities, ideal for use as sole thickener in small particle-size binders.		•	•	◦	•	•	•				•														◦	◦
RHEOLATE® 255	Polyurethane solution	Good mid-shear viscosity builder, especially with small particle-size binders. Works well in flat through gloss paints.		•	•		•	•	•	•	•		•	•	•	•							•	•	•	◦	•	
RHEOLATE® 266	Polyurethane solution	Excellent low-shear viscosity builder. Highly pseudoplastic rheology, excellent for spray and thick film application.		•	•		•	•	•	•	•		•	•	•	•							•	•		•	◦	
RHEOLATE® 278 TF	Polyurethane solution	Excellent mid-high shear viscosity builder. Can be used as the sole thickener in quality acrylic flats and eggshell finishes.		•	•	◦	•	•	•	•	•		•	•	•	•		•								◦	•	◦
RHEOLATE® 288	Polyurethane solution	Suitable for high-gloss, clear and pigmented coatings and haze-free architectural and industrial finishes.		•	•		•	•	•	•	•		•	•	•	•		•			•					•		
RHEOLATE® 290	Polyurethane solution	Highly efficient viscosity builder under low-shear conditions, provide strong shear thinning flow behavior which makes it ideal for spray applications.		•	•		•	•	•	•	•		•	•	•	•							•	•	•	•		
RHEOLATE® 299	Polyurethane solution	Highly efficient thickener that provides excellent sag resistance on spraying.		•	•		•	•	•	•	•		•	•	•	•							•	•	•	•		
RHEOLATE® 310D	Polyether polyol solution	Excellent mid-shear viscosity builder. Good color, sag resistance, and suspension properties. Less sensitive to higher HLB surfactants. Best used in combination with RHEOLATE® 350 for good overall balance of properties.		•	•		•	•	•			◦	•			◦		•					◦		•	◦	•	
RHEOLATE® 350D	Polyether polyol solution	Excellent high-shear viscosity build, great synergy with RHEOLATE CVS® rheology modifiers, excellent color properties and good syneresis resistance. More contribution on the mid-shear viscosity than RHEOLATE® 212.		•	•		•	•	•	•	•		•	•	•	•		•					•	•	•			•

● Highly recommended    ○ Recommended

RHEOLATE® thickeners

Product Name	Composition	Description	Solventborne	Waterborne	Application																				Shear Rate			
					Architectural coatings					Industrial coatings						Construction					Others							
					Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete coating	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Inks	Leather coatings	Low	Medium	High
Nonionic associative thickeners (NiSAT)																												
RHEOLATE® 644	Polyurethane solution	Low VOC, solvent free, APE-free, provides efficient thickening in high and mid-shear viscosity ranges		•	•	◦	•	•	•				•														◦	◦
RHEOLATE® 655	Polyurethane solution	Low VOC, solvent-free, APE-free, provides thickening efficiency primarily in the medium-shear rate range viscosity.		•	•		•	•	•	•	•		•	•	•	•							•		•		•	
RHEOLATE® 658	Polyurethane solution	Excellent mid-shear viscosity builder, especially with small particle-size binders. Works well in low and zero VOC flat through gloss paints.		•	•		•	•	•	•	•		•	•		•							•	•		◦	•	
RHEOLATE® 666	Polyurethane solution	Low VOC, solvent free, APE-free, provides viscosity at low and medium-shear rates and provides effective flow and leveling control.		•	•		•	•	•	•	•		•	•	•	•							•	•		•	◦	
RHEOLATE® 678 IF	Polyurethane solution	RHEOLATE® 678 IF is a solvent-free version of RHEOLATE® 278.		•	•		•	•	•	•	•		•	•	•	•		•					•			◦	•	◦
RHEOLATE® FX 1070	Polyurethane solution	Zero VOC liquid rheology modifier for high shear viscosity in aqueous coatings.		•	•		•	•	•	•	•		•	•	•	•		•					•	•			•	
RHEOLATE® FX 1010	Polyurethane solution	Rheology modifier for low to mid shear viscosity. provides good sag resistance, and anti-settling properties.		•						•	•		•	•	•	•									•	◦	•	
RHEOLATE® FX 1080	Polyurethane solution	Very low VOC, high efficiency, high active content polyurethane mid-shear thickener for the use in aqueous coatings.		•	•		•	•	•				•					•								◦	•	
RHEOLATE® HX 6008 IF	Polyurethane solution	Efficient, Zero VOC, APEO free, high-shear builder. Excellent efficiency with both hydrophobic and hydrophilic resins with some low-shear contribution.		•	•	◦	•	◦	◦	•	•		•	•	•	•		•		•			•	•	•		◦	•
RHEOLATE® HX 6010 IF	Polyurethane solution	Highly efficient, zero VOC, APEO free, Newtonian high-shear builder. Excellent efficiency with hydrophobic resins with exceptional application properties.		•	•	◦	•	•	•	•	•		•	•	•	•		•		•			•		•			•
RHEOLATE® HX 6025	Polyurethane solution	Zero VOC, APEO free, high-shear builder. Excellent stain resistance and applied hide		•	•	◦	•	•	•				•					•		•								•
RHEOLATE® HX 6050 IF	Polyurethane solution	Highly efficient, zero VOC, APEO free, high-shear builder. Excellent efficiency with hydrophilic resins and significant low-shear contribution.		•	•	•	•			•	•		•	•	•	•							•				◦	•
Powdered NiSATs																												
RHEOLATE® 208	Polyurethane powder	Powdered rheology modifier, excellent mid-shear viscosity builder.		•	•		•	•	•				•													◦	•	◦
RHEOLATE® FX 1100	Polyurethane powder	Powdered, high efficiency, NiSAT for low to mid shear viscosity build in sustainable waterborne systems		•	•		•	•	•				•					•		◦	◦	◦	•		◦	•	•	
RHEOLATE® PHX 7025	Polyurethane powder	Zero VOC, high-shear builder. Excellent stain resistance and applied hide. Powdered rheology modifier for sustainable formulations		•	•	◦	•	•	•				•					•	•	•	•		•					•

● Highly recommended   ○ Recommended

RHEOLATE® acrylic thickeners for aqueous systems

RHEOLATE® alkali swellable rheological additives are free-flowing liquids, based on acrylic copolymer chemistry and are known for their ability to swell and thicken when neutralized with alkali.

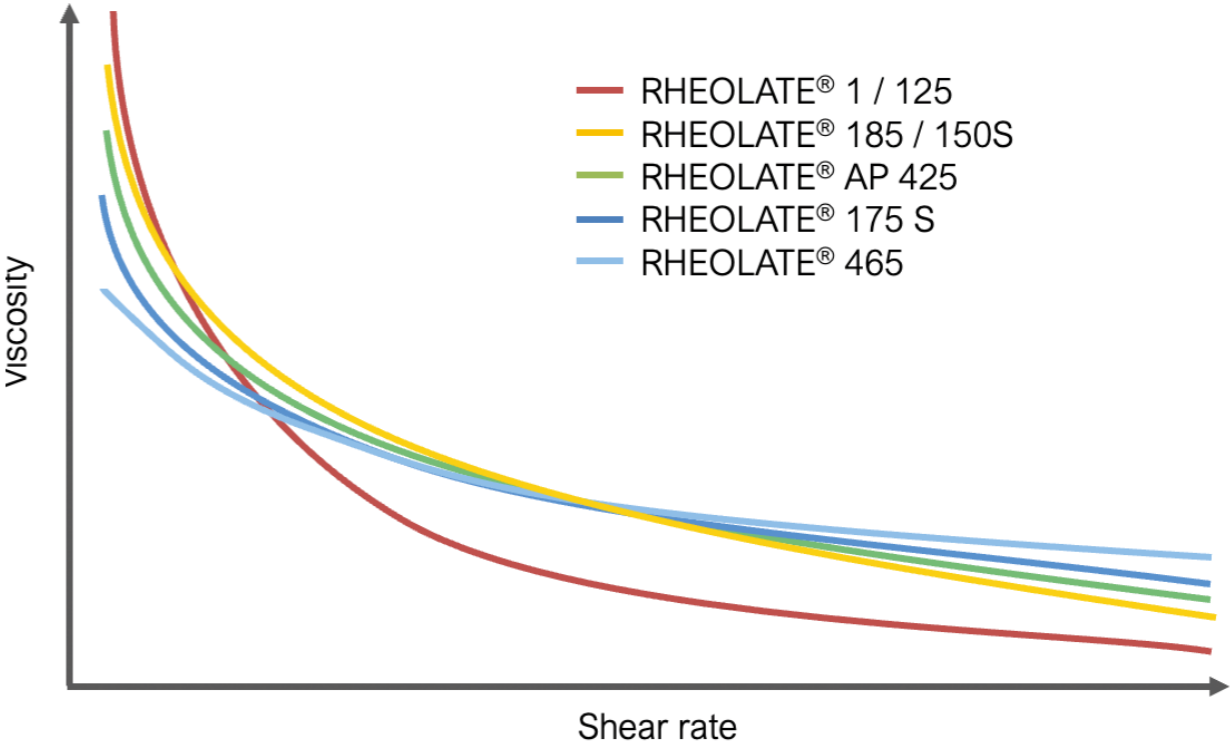
Each product enhances viscosity development, flow and application properties and can easily be post-added in the manufacturing process of various aqueous systems, including paints, coatings, adhesives, and construction materials.

RHEOLATE® ASE/HASE benefits:

Broad range of RHEOLATE® ASE/HASE thickeners are available for different application techniques to achieve optimum application properties:

- Easy to incorporate at different stages of production
- Resistant to microbiological and enzyme spoilage
- Long-term stability in the final product.
- Providing a balanced flow and sag resistance
- Potential use as full or partial replacements for HEC and HMHEC

Schematic comparison of flow / precise flow is latex dependent



RHEOLATE® thickeners

Product Name	Composition	Description	Solventborne	Waterborne	Application																				Shear Rate				
					Architectural coatings					Industrial coatings						Construction					Others								
					Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete coating	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Inks	Leather coatings	Low	Medium	High	
Acrylic thickeners																													
RHEOLATE® 1	Acrylic emulsion	Excellent low shear ASE-type viscosity builder. Cost-effective re- placement for medium molecular weight HEC with improved sag and settling for low PVC systems, including wood, architectural, and industrial coatings.		●	○	●	●	●	●	●	●		●		●	●	●	●		●			●		●	●	○		
RHEOLATE® 135	Acrylic emulsion	Excellent performance in high PVC and contractor grade paints. Good contribution to mid and high shear viscosity. Provides excellent film build, leveling and spatter resistance.		●	○	●	●	●	●							○	●	●			●						○	●	
RHEOLATE® 150S	Acrylic emulsion	Excellent low shear viscosity builder. Most pseudoplastic of all HASE products shown. Cost-effective alternate to high molecular weight HEC. Recommended for interior paints.		●	○	●	●	●	○	○	○		●		○	○	●	○		●			●	●	●	●	○		
RHEOLATE® 175S	Acrylic emulsion	Excellent mid to high shear viscosity builder. Provides excellent film build, leveling and spatter resistance.		●	○	●	●	●	○	○	○		○		○	○	●	○		●			●	●	●	○	●		
RHEOLATE® 185	Acrylic emulsion	Excellent low-shear acrylic thickener that was developed to replace HEC in interior and exterior formulations, giving improved applied hide and reduced spatter.		●	○	●	●	○	○								●	○		●				●	●	●	●		
RHEOLATE® 465	Acrylic emulsion	HASE thickener with unique flow and leveling properties. Works well across all decorative latex systems.		●	○	○	●	●	●	○	○		○		○	○		●				○					○	●	
RHEOLATE® AP 425	Acrylic emulsion	Economical and versatile hydrophobically modified alkali swellable thickener designed to fully or partially replace cellulosic thickeners in a variety of waterborne systems.		●	○	○	●	●	●	○	○		○		○	○								●	●	○	●		
DeuRheo WT-115	Anionic-polyacrylate	A highly efficient alkali swellable acrylic associate thickener (HASE). It is easy to use with excellent thickening effect, flow and leveling. When applied by roller it eliminates spattering and has good syneresis resistance.		●	○	○	○	○					●										●	●		●			

● Highly recommended   ○ Recommended

THIXATROL® organic thixotropes

THIXATROL® and THIXCIN® organic thixotrope rheological additives for non-aqueous systems are based on castor wax derivatives and polyamides. They typically need appropriate wetting and a certain activation temperature window to achieve optimum performance.

THIXATROL® benefits:

- Imparting thixotropy/ pseudoplastic flow characteristics
- Perfect rheology modifier for spray application and extrusion process
- Excellent sag resistance at extremely high film thickness
- Uniform film formation also at low film thickness

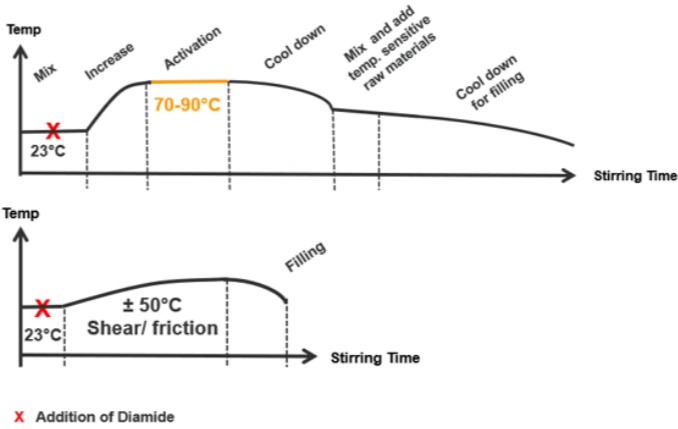
THIXATROL® AS and PM benefits:

- Higher efficiency compared to references and mineral based rheological additives
- Lower activation temperature (from 40°C onwards)
- Shorter process times allowing for time savings and leading to higher production capacity
- Wider temperature activation window resulting in more robust process
- Improved storage stability of final formulation
- Higher elasticity in final application compared to mineral based rheological additives

M-P-A® Anti-settling Agents

M-P-A® are ready-to-use anti-settling agents for water- and solventborne systems used for improving storage stability of the final formulation while not having negative impact on the application viscosity.

Old high temperature process vs. optimized process



Product	Renewable content (ISO 16128 calculated) in %	Renewable carbon content* in %
THIXATROL® AS 8053	69,7	78,3
THIXATROL® PM 8056	72,0	81,8
THIXATROL® PM 8058	74,8	82,5
THIXATROL® MAX	86,8	92,3

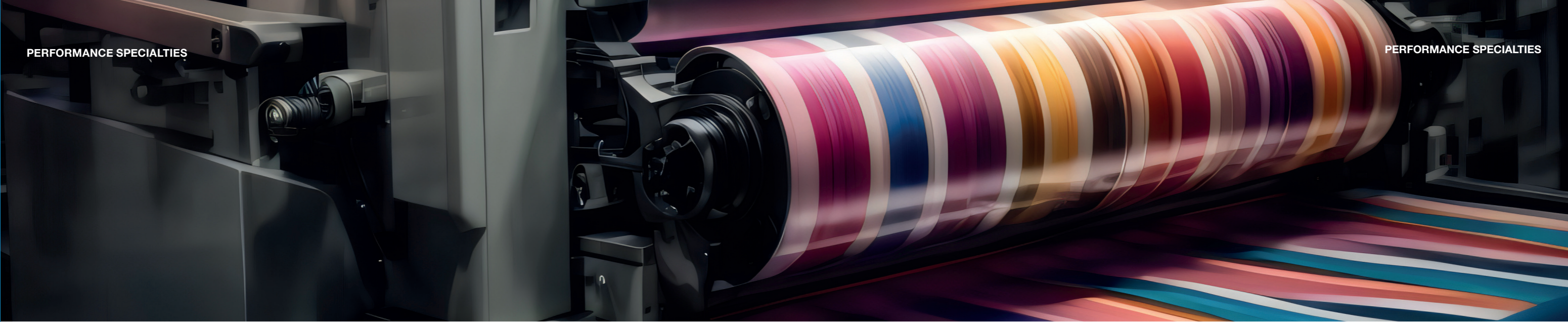
\*%Renewable carbon calculates percentage of renewable carbon to total organic carbon, as per ASTM D6866, and can be validated via measurement of 14C content

Product name	Composition	Description	Solvent	Solid %	Solventborne	Waterborne	Applications											Polarity				
							Industrial coatings							Construction	Others							
							Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Roof coatings	Adhesives and sealants	Inks	Leather coatings	Low	Medium	High	
Anti settling agents																						
M-P-A® 202P	Polyolefin wax	Polyolefin wax dispersion anti-settling agent for highly efficient control of pigment settling.	Xylene	19-21	●			●	●	●	●	●	●	●					●	●	●	
M-P-A® 1075	Organic compound	Solid paste, easy incorporation, anti-settling agent for virtually all water-reducible and butanol compatible coatings system.	Butanol	45		●					●	○									●	
M-P-A® 1078-X	Organic compound	Very soft paste, anti-settling agent for industrial coatings	Xylene	40	●						●							○	●			
M-P-A® 20-X	Complex polyolefin compound	Translucent soft paste rheological additive which prevents pigment settling in solventborne coatings. It is especially designed to prevent settling in non-aqueous systems with no significant increase in viscosity.	Xylene	20	●						●							○	●			
M-P-A® 2000-X	Organic compound	Easy incorporated, highly efficient, liquid, pourable anti-settling and sag control agent.	Xylene	20	●				●	●		●		●	○				○	●		
M-P-A® 24X	Complex polyolefin compound and xylene	Translucent paste thixotropic rheological additive for solvenborne coatings. It prevents pigment settling and gives good suspension.	Xylene	24	●				●	●		●	●	●	●							
M-P-A® 60-X	Organic compound	Soft paste anti-settling agent dispersed in xylene.	Xylene	24	●		○	○	○	○	●	●	○	○				○	●			
DeuRheo 201	Polyethylene wax	A polyethylene wax dispersion based anti-settling agent which can be handled easily and dispersed rapidly.	Xylene/IPA	10	●				●	●		●	●	●	●					●	●	
DeuRheo 201P	Polyethylene wax	A polyethylene wax dispersion based anti-settling agent which can be handled easily and dispersed rapidly.	Xylene/IPA	10	●				●	●		●	●	●	●			○	●		●	●
DeuRheo 202	Polyethylene wax	An anti-settling agent for highly filled solvenborne coatings.	Xylene	20	●			●	●	●	●	●	●	●	●					●		
DeuRheo 202P	Polyethylene wax	A polyethylene wax dispersion based anti-settling agent for highly efficient control of pigment settling.	Xylene	20	●			●	●	●	●	●	●	●	●				●		●	
DeuRheo 202SP	Polyethylene wax	A polyethylene wax dispersion based anti-setting agent for highly efficient control of pigment settling.	Xylene	25	●				●	●		●	●	●	●					●		
DeuRheo 211	Polyethylene wax	A polyethylene wax dispersion based anti-setting agent which can be handled easily and dispersed rapidly.	Xylene	10	●				●	●		●	●	●	●					●		
DeuRheo 211F	Polyethylene wax	An aromatic free polyethylene wax dispersion based anti-settling agent, which can be handled easily and dispersed rapidly.	n-butyl Acetate/ Methylcyclohexane	10	●				●	●		●	●	●	●			●		●	●	
DeuRheo 212	Polyethylene wax	A polyethylene wax dispersion based anti-settling agent for highly efficient control of pigment settling.	Xylene	20	●				●	●	●	●	●	●	●					●		
DeuWax FA-110	Polyethylene wax	Flattening agent for silky smooth surfaces, improves scratch resistance of flattening silica.	Xylene/n-butyl acetate	10	●								●	●				●	●		●	●
DeuWax FA-115	Polyethylene wax	Unique wax based dispersion which gives exceptional flattening and slip resistance to paint films.	Toluene	15	●								●	●				●	●		●	●
RHEOLATE 2001	Polyolefin wax dispersion	Highly efficient, pourable liquid anti-settling additive		24		●						●		●	●							●

● Highly recommended   ○ Recommended

Product name	Composition	Description	Solvent	Solid %	Solventborne	Waterborne	Applications												Polarity		
							Industrial coatings							Construction	Others						
							Can coatings	Car-OEM coatings	Car refinsh coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Roof coatings	Adhesives and sealants	Inks	Leather coatings	Low	Medium	High
Rheological additives																					
THIXATROL® P2100W	Proprietary organic	Organic thixotrope that provides excellent anti-sagging, anti-settling effect and improves the orientation of metallic pigments in industrial coatings.	Water/propylene glycolmonomethyl ether	16 - 20		•		•			•										
THIXATROL® 5020W	Modified EVA emulsion	Improvement of orientation of effect pigments and anti-sagging and anti-settling effect.	Water	18 - 22		•		•	•		•		•	•				•	•		
THIXATROL® 5050W	Modified EVA copolymer emulsion	Excellent orientation of metallic & pearlescent pigments in coating films through particle’s steric hindrance mechanism. Slight effect on low shear viscosity at increased dosage levels.	Water	18 - 22		•		•	•		•		•	•				•	•		
THIXATROL® AS 8024	Proprietary organic	Special grade for sag resistance at elevated temperatures during application process.		100	•							•					•			•	•
THIXATROL® AS 8053	Proprietary organic	Low temperature activation and highly effective organic thixotrope for solventborne and high solids systems, very suitable for adhesives and sealants.	N.A.	100	•							•					•			•	•
THIXATROL® PM 8056	Proprietary organic	Low temperature activation and highly effective organic thixotrope for solventborne and high solids systems.	N.A.	100	•							•					•			•	•
THIXATROL® PM 8058	Proprietary organic	High performance organic thixotrope with easy activation; works with most solventborne systems especialy those containing high alcohol content.	N.A.	100	•							•								•	•
THIXATROL® MAX	Proprietary organic	Cost effective seed-resistant, powdered diamide thixotrope for solventborne and high solids systems.	N.A.	100	•							•					•			•	•
THIXATROL® PLUS	Proprietary organic	Provides viscosity, thixotropy and sag control in both conventional and high build systems.	N.A.	100	•							•					•	•		•	•
THIXCIN E	Castor oil derivative	Powdered thixotrope, chemically the same as THIXCIN® R, but less dusty.	N.A.	100	•									○			•			•	
THIXCIN R	Castor oil derivative	Organic thixotrope for low polarity aliphatic systems.	N.A.	100	•				•					○			•			•	
THIXATROL® P200A	Polyamide wax	Polyamide paste thixotrope in aromatic solvents for solventborne systems.	Aromatic 100, ethanol	20	•			•	•		•	•	•	•						•	
THIXATROL® P220X	Polyamide wax	Polyamide paste thixotrope in xylene for solventborne systems.	Xylene/alcohols	20	•			•	•		•	•	•	•						•	
THIXATROL® P230X	Polyamide wax	Polyamide paste thixotrope in xylene for solventborne systems.	Xylene/alcohols	20	•			•	•		•	•	•	•						•	
THIXATROL® P240X	Special polyamide wax	Polyamide paste thixotrope for solventborne systems.	Xylene/alcohols	20	•			•	•		•	○	•	•						•	
THIXATROL® P260X	Special polyamide wax	Polyamide paste thixotrope for solventborne systems.	Xylene/alcohols	20	•						•	○								•	
DeuRheo 229	Polyamide wax	A special polyamide wax dispersion, which prevents pigments or fillers from settling and sagging.	Xylene/alcohols	20	•			•	•		•	•	•	•				○	•		•
Others																					
DeuRheo 2810	Modified polyurea	A liquid rheology modifier for solventborne coatings. it does not require a specific activation temperature for incorporation.	N-methyl pyrrolidone	50-54	•			○	○		•	•	•	•					•		•
DAPRO BEZ 75	Sulphonated castor wax	Anti-settling agent especially for aromatic-free systems and efficient chemical activator for organoclays.	Water	75	•				•		•		•	•						•	•

● Highly recommended    ○ Recommended



# Wetting & Dispersing Agents

## NUOSPERSE® and Disponer wetting & dispersing agents

NUOSPERSE® and Disponer wetting and dispersing agents provide good wetting and dispersing performance for inorganic and organic fillers and pigments. They are widely compatible with aqueous, solvent-based and solvent -free coatings, construction, adhesives & sealants formulas. They are essential agents for achieving uniform dispersion of pigments and fillers and improved stability which directly impacts the quality and durability of the final product.

### NUOSPERSE® wetting and dispersing agents benefits:

- Rapid pigment/ filler wetting
- Full colour and maximum tinting strength development
- Long-term stability (anti-settlement/ flocculation resistance)
- Increased mill output
- Good flow at high pigment/ filler loading
- Compatibility with a broad range of formulations
- Elimination of floating, flooding and rub-up
- Maximum colour acceptance of all bases

### Wetting and dispersing agents

Product name	Composition	Description	Actives %	Solventborne	Waterborne	Compatibilizer	Applications																							
							Architectural coatings						Industrial coatings						Construction		Others		Pigments							
							Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss and gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coatings	Wood coatings	Asphalt emulsion	Roof coatings	Adhesives and sealants	Inks	Leather coatings	White	Extenders/fillers	Carbon black	Oxides, sienna and umber	Organic yellow, orange, red	Organic red, violet, purple
Wetting agents for waterborne system																														
NUOSPERSE® FN 211	Nonionic surfactant	APE and VOC free, low foaming.	100.0		●		●	●	●	●									●	●	●	○	●	●	●					
NUOSPERSE® FN 265	Nonionic surfactant	APE and VOC free wetting agent for waterborne decorative paints and colorant systems.	90.0		●	●	●	●	●	●									●	●	●	○	●	●	●	●	●	●	●	●
NUOSPERSE® FN 270	Nonionic surfactant	APE and VOC free wetting agent for waterborne decorative base paints, low foaming.	100.0		●	●	●	●	●	●									●	●	●	○	●	●	●	●	●	●	●	●

• Highly recommended   ○ Recommended

Wetting and dispersing agents

Product name	Composition	Description	Actives %	Solventborne	Waterborne	Compatibilizer	Applications																								
							Architectural coatings						Industrial coatings						Construction		Others			Pigments							
							Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss and gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coatings	Wood coatings	Asphalt emulsion	Roof coatings	Adhesives and sealants	Inks	Leather coatings	White	Extenders/fillers	Carbon black	Oxides, sienna and umber	Organic yellow, orange, red	Organic red, violet, purple	Phthalo blue, green
Wetting agents for waterborne system																															
NUOSPERSE® FX 365	Nonionic surfactant	Pigment wetting and dispersing agent for industrial systems.	90.0		●	●	○			○	●		●	●		●		●	●	○	○	●	●		●	●	●	●	●	●	
NUOSPERSE® 2006	Anionic surfactant	Wetting agent and color acceptance improver.	76.0	○	●	●	●	●	●	●	●												●		○	○	○	○	○	○	
Disponer W-18	Non-ionic surfactant	Non-ionic wetting, dispersing, anti-floating, anti-flooding and emulsion stabilizer for waterborne systems.	100.0		●		●	●	●	●	●											●	●	●	●	●	●	●	●	●	
Disponer W-19	Non-ionic surfactant	Non-ionic wetting, dispersing, anti-floating, anti-flooding and emulsion stabilizer for waterborne systems.	100.0		●		●	●	●	●	●												●	●	●	●	●	●	●	●	
NUOSPERSE® W-33	Mixture of wetting and dispersing agents	Dispersing agent for waterborne systems, organic yellows, reds, carbon blacks and whites	32.0		●	○	○			○	●		●	●		●	●	●	●				●	●	●	●	●		●	○	
Dispersing agents for waterborne and universal pigment dispersions																															
NUOSPERSE® 2000	Hydrophilic humectant	Liquid carrier and humectant with pigment dispersing functionality for low-VOC universal colorants.	71.0		●		●	●	●	●	●														●	○	●	○	●	●	●
NUOSPERSE® W-22	Mixture of wetting and dispersing agents	Dispersing agent for waterborne systems, organic yellows, reds, carbon blacks and whites.	29.0		●	○	○			○	●		●	●		●	●	●	●				●	●	●	●	●		●	○	
NUOSPERSE® W-30	Anionic dispersant	A wetting and dispersing agent for the manufacture of highly concentrated, low viscosity waterborne pigment dispersions.	42.0		●	●					●					●		●	●			●	●	●	○	○	○	○	●	●	●
NUOSPERSE® FA 620	Anionic dispersant	Wetting and dispersing agent for pigment concentrates.	50.0		●	●					●					●		●	●			●	●	●	○	○	○	○	●	●	●
NUOSPERSE® FX 7500W	Polymeric dispersant	Highly efficient dispersant for waterborne industrial applications.	40.0		●						●	●	●	●	●	●	●	●	●				●	●	●	●	●	●	●	●	●
NUOSPERSE® FX 7600W	Polymeric dispersant	Universal dispersant for all kind of pigments. Good colour strength development and stabilisation of carbon black pigments. Preferable for resin-containing pigment preparations.	35.0		●					●	●					●		●	●				●			●	●	●	●	●	●

Wetting and dispersing agents

Product name	Composition	Description	Actives %	Solventborne	Waterborne	Compatibilizer	Applications																									
							Architectural coatings						Industrial coatings						Construction		Others			Pigments								
							Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss and gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coatings	Wood coatings	Asphalt emulsion	Roof coatings	Adhesives and sealants	Inks	Leather coatings	White	Extenders/fillers	Carbon black	Oxides, sienna and umber	Organic yellow, orange, red	Organic red, violet, purple	Phthalo blue, green	
Dispersing agents for waterborne and universal pigment dispersions																																
NUOSPERSE® FX 504	Ammonium salt of a polycarboxylic acid	Pigment dispersant for deco coatings.	30.0		•		○	•	•											○	•				•		•					
NUOSPERSE® FX 600	Multi-functional polymer	Pigment dispersant for industrial and deco coatings and colorants.	25.0		•						•		•	•			•		•	•		○	•	•	•	•		•	•	•	○	
NUOSPERSE® FX 605	Sodium salt of a polycarboxylic acid	Pigment dispersant for deco coatings.	45.0		•			•	•													•			•			•				
NUOSPERSE® FX 618	Ammonia neutralized copolymer	Hydrophobic copolymer dispersant, intended for use in high performance interior and exterior waterbased coatings. Good compatibility with NiSat's.	35.0		•		•				•	•					•					•			•	•		•				
NUOSPERSE® FX 631	NaOH neutralized copolymer	General purpose dispersant for coatings and inorganic pigment dispersions. Good compatibility with NiSAT's.	25.0		•		•				•	•										•			•	•		•				
NUOSPERSE® FX 665	Ammonia neutralized copolymer	Hydrophobic dispersant with excellent water resistance for waterborne industrial and high performance deco paints.	22.0		•		•				•	•										•			•	•		•				
NUOSPERSE® FA 115	Anionic dispersant	Additive to improve the incorporation of universal colorants into base paints.	50.0		•	•					•														○	○	○	○	○	○	○	
NUOSPERSE® FA 182	Anionic surfactant	Wetting agent and color acceptance improver for dispersion paints; also used to reduce resistance of electrostatic spray paints.	65.0	•	•	•																										
NUOSPERSE® FA 196	Phosphate ester	Pigment dispersant for carbon blacks and organic pigments.	91.0	•	•	•					○	•	•	•	•	•	•	•	•	•			•	•	•	•		•	•	○	○	○
Disponer W-518	Ammonium salt of a polycacrylic acid	Low foaming polymeric dispersing agent which works effectively for a wide variety of pigments and extenders used in waterborne coatings.	34.0		•		•	•	•		•	•										•		•	•	•						

● Highly recommended   ○ Recommended

Wetting and dispersing agents

Product name	Composition	Description	Actives %	Solventborne	Waterborne	Compatibilizer	Applications																								
							Architectural coatings						Industrial coatings						Construction		Others		Pigments								
							Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss and gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coatings	Wood coatings	Asphalt emulsion	Roof coatings	Adhesives and sealants	Inks	Leather coatings	White	Extenders/fillers	Carbon black	Oxides, sienna and umber	Organic yellow, orange, red	Organic red, violet, purple	Phthalo blue, green
Wetting and dispersing agent for solventborne system																															
NUOSPERSE® 2008	Anionic dispersant	Pigment dispersant for carbon blacks and organic pigments.	100.0	●	●	●					●			○		○	○	○	○						●		●	●	○	○	○
NUOSPERSE® AP 657	High molecular weight polyester	Pigment dispersant for industrial and deco coatings and primers.	70-75	●												●	●						●		●	●		●	●	○	○
NUOSPERSE® 757	High molecular weight polyester	Pigment dispersant for industrial and deco coatings and primers.	70-75	●												●	●						●		●	●		●	●	○	○
NUOSPERSE® FX 9086	Polymeric dispersant	Dispersant for industrial coatings.	50.0	●								●	●	●	●	●	●	●	●				●	●	●	●	●	●	○	○	○
NUOSPERSE® FX 9200	Polymeric dispersant	NUOSPERSE® FX 9200 is suitable for solventborne and non-solvent inks. It provides good wetting and dispersing performance to organic pigments and carbon blacks.	100.0	●																		●	●	●	●	●	●	●	●	●	●
NUOSPERSE® FX 9360	Highly branched copolymer containing multiple anchoring groups	It provides good wetting and dispersing performance to organic pigments and carbon blacks.	40.0	●								●	●	●	●	●	●	●	●				○	●	●	●	●	●	●	●	●
Disponer 903	Modified polysiloxane	Additive to eliminate floating, flooding and silking in multi-pigment system. Post addition possible.	8.5-10.5	●								○	○	○	○	●	●	●	●						○	○	○	○	○	○	○
Disponer 904	High molecular weight	Wetting dispersing, anti-floating and anti-flooding agent for solventborne paints.	49.0 - 51.0	●								○	○	○	○	●	●	●	●						●	●		●			
Disponer 904S	Solution of polycarboxylic acid polymer with modified polysiloxane	Additive for polar and non-polar systems. Activity for the most part independent of the binder. For systems based on alkyd, epoxy, acrylic resins, PUR, polyesters and vinyl compounds.	49.0 - 51.0	●								●	●	●	●	●	●	●	●						●	●		●			
Disponer 912	Solution of a salt of polyamide and polyester, electroneutral	Suitable for use with various organic and inorganic pigments. Higher pigment loadings are possible with lower viscosities.	48.0 - 52.0	●								○	○	○	○	●	○	●	●						●	●		●			

● Highly recommended   ○ Recommended

Wetting and dispersing agents

Product name	Composition	Description	Actives %	Solventborne	Waterborne	Compatibilizer	Applications																									
							Architectural coatings						Industrial coatings						Construction		Others			Pigments								
							Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss and gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coatings	Wood coatings	Asphalt emulsion	Roof coatings	Adhesives and sealants	Inks	Leather coatings	White	Extenders/fillers	Carbon black	Oxides, sienna and umber	Organic yellow, orange, red	Organic red, violet, purple	Phthalo blue, green	
Wetting and dispersing agent for solventborne system																																
Disponer 923S	Electroneutral amine salt of polycarboxylic acid with modified polysiloxane	Exceptional pigment wetting, dispersing, anti-settling, flooding and floating additive. Acts as activator for bentonites.	38.0 - 41.0	●								○	○	○	○	●	○	●	●						●	●		●				
Disponer 9250	Solution of a copolymer with acidic groups	Excellent wetting and dispersing agent for the stabilization of inorganic pigment	48.5 - 51.5	●								●	●	●	●	●	●	●	●					●	●	●		●	○	○	○	
Disponer 929	Anionic surfactant	An unique dispersant specifically for carbon black, excellent color development and flocculation stability	48.0 - 51.0	●												●								●	●	●						
Disponer 983	High molecular weight polymer	Polymeric dispersant for wetting and dispersing of carbon black, prevents pigment reflocculation.	52.5 - 54.5	●								●	●	●	●	●	●	●	●				○		○	○	●					
Disponer 9850	High molecular weight polymer solution	Developed for organic pigment, exhibits excellent dispersing and wetting performance.	44.0 - 47.0	●								●	●	●	●	●	●	●	●				○	●	●	●	●	●	●	●	●	

● Highly recommended   ○ Recommended



# Defoamers and Specialties

## DAPRO® and Defom Defoamers

DAPRO® and Defom defoamers are based on a variety of active materials to provide air release and bubble-breaking for most applications such as paints, coatings, inks, adhesives & sealants and construction products. They help prevent and eliminate foam formation, which can cause defects and reduce the efficiency of production processes.

## DAPRO® defoamers benefits:

- Excellent antifoaming and defoaming properties
- Easy to use and incorporate
- Good compatibility
- Very good long-term efficiency

## Defoamers

Product Name	Composition	Description	Solventborne	Waterborne	Application																							
					Architectural coatings					Industrial coatings							Construction					Others						
					Deco grind	Deco letdown	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Emulsion synthesis	Inks	FRP	Leather coatings
DAPRO® AP 1622	Modified polysiloxane solution	Has outstanding defoaming properties in a variety of solvent systems. Easy to incorporate in solventborne coatings and inks.	•	•						•	•	•	•	•	•	•							•		•			
DAPRO® AP 7010	Dispersion of wax in mineral oil	It is specially recommended for systems with good emulsifying properties, such as surfactant stabilised emulsions and emulsion paints. The product shows very good long-term efficiency.		•			•	•						•	•		◦										•	
DAPRO® AP 7015S	Dispersion of wax in mineral oil	A defoamer for waterborne systems with good emulsifying properties. It has excellent anti-foaming and de-foaming effects.		•		•	•	•						•	•		◦	•				•	•	•		•		•

• Highly recommended   ◦ Recommended

Defoamers

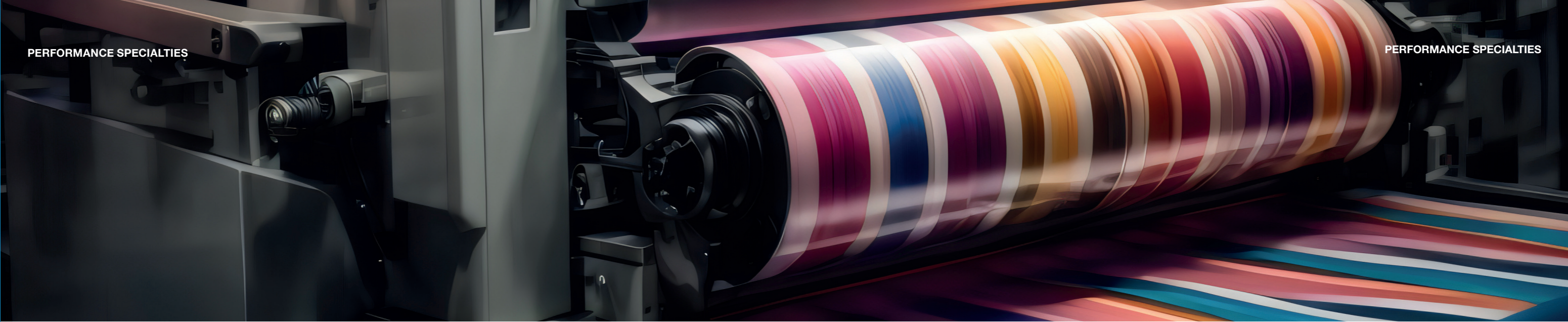
Product Name	Composition	Description	Solventborne	Waterborne	Application																						
					Architectural coatings					Industrial coatings							Construction					Others					
					Deco grind	Deco letdown	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Emulsion synthesis	Inks	FRP
DAPRO® AP 7072	Modified polysiloxane solution	Effective in high quality rubber applications and provides excellent foam suppression and defoaming performance. DAPRO® AP 7072 is readily dispersible in water.		•																		•	•	•			
DAPRO® DF 605	Silicone emulsion	An excellent defoamer for water based elastomeric coatings, mastics and water reducible industrial coatings		•						◦									◦	•	•		•	•			
DAPRO® DF 675	Blend of glycols and modified polysiloxanes	Useful in high quality decorative and no-VOC decorative coating for maintaining gloss and minimizing surface defects		•	•		•	•	•	•	•	•	•	•	•	•	•						•		•		•
DAPRO® DF 677	Silicone emulsion	An excellent defoamer for water based industail coatings and inks.		•						•	•	•	•	•	•	•	•						•		•		•
DAPRO® DF 7005	dispersion of wax in mineral oil, Silicone free	Silicone free mineral oil type defoamer for deco paints application with long-term efficiency		•	•	•																	•				
DAPRO® DF 7073	An emulsion of water, hydrophobic silica and mineral oil	Water dispersible foam control agent for decorative paints and coatings. It is effective in a broad range of high PVC paint systems by providing rapid bubble break at low concentrations. DAPRO® DF 7073 has little to no effect on gloss.		•			•																				
DAPRO® DF 7079	A blend of hydrophobic silica in mineral oil	Excellent foam control as both the grind and let down defoamer in paints and coatings. It is particularly effective in semi-gloss and high gloss paints in providing rapid bubble break at low concentrations.		•			•							•	•		•						•				
DAPRO® DF 7160	Hydrophobic silica blending with mineral oil	Easy disperse for pressure sensitive adhesive, latex syntheis and ink application with excellent antifoam and defoaming performance. Shows excellent foam control, less microfoam and increase coating speed while roller coating adhesive latex on BOPP film to reduce file transparency concern after processing.		•		•	•							•									•	•	•		•
DAPRO® BIO 9910	Fine dispersion of wax in vegetable oil	Vegetable oil based defoamer for waterborne applications; excellent compatibility, fast defoaming performance and good long-term persistency		•		•	•							•	•		◦										•
DAPRO® PD 801W	A blend of liquid defoamer on an inert carrier	Effective in the defoaming of entrained air in drywall joint compounds and other dry mixes		•															•	•	•						
DAPRO® PD 829	A blend of liquid defoamer on an inert carrier	Effective at preventing air entrainment in dry wall joint compounds and other dry mixes		•															•	•	•						

• Highly recommended   ◦ Recommended

Defoamers

Product Name	Composition	Description	Solventborne	Waterborne	Application																								
					Architectural coatings					Industrial coatings							Construction					Others							
					Deco grind	Deco letdown	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Emulsion synthesis	Inks	FRP	Leather coatings	
Defom 2700	Foam destroying polymer silicone-free	A silicone-free bubble releasing and anti-foaming agent for solventborne or solvent-free systems. It is more suitable for epoxy, unsaturated polyester and UV curing coatings.	•											•	•		•							•					
Defom 3200	Foam destroying polymer silicone-free	A silicone-free bubble releasing and anti-foaming agent for solventborne and solvent-free systems.	•												•	•		•							•		•		
Defom 3500	Foam destroying polymer silicone-free	A silicone-free bubble releasing and anti-foaming agent for solventborne and solvent-free systems, especially in deaeration of high filler content wood primer.	•												•			•							•		•		•
Defom 5300	Modified polysiloxane	A bubble releasing, anti-foaming agent for high build PU coatings.	•							•	•	•	•	•	•	•	•	•							•				
Defom 5400	Modified polysiloxane	A solventborne bubble releasing, anti-foaming agent characterized by its improved compatibility.	•							•	•	•	•	•	•	•	•	•							•				
Defom 5500	Modified polysiloxane	A bubble releasing, anti-foaming agent for solventborne coatings.	•							◦	•	•	◦	•	•	•	•	•							•				•
Defom 5800F	Modified polysiloxane	An aromatic-free defoamer used in solventborne coatings.	•							•	•	•	•	•	•	•	•	•							•				
Defom 6500	Modified polysiloxane	A bubble releasing, anti-foaming agent for solventborne coatings.	•							◦	•	•	◦	•	•	•	•	•							•				
Defom 6800	Polysiloxane containing hydrophobic particles	A bubble releasing, anti-foaming agent for thick film epoxy floor coatings and silk screen ink.	•											•	•										•		•		•
Defom W-082	Mixture of mineral oil and hydrophobic particle	A hydrocarbon based waterborne defoamer, exhibit excellent antifoaming and defoaming effect.		•			•	•																	•	•	•		•
Defom W-086	Mixture of mineral oil and hydrophobic particle	Hydrocarbon based waterborne defoamer, exhibits excellent anti-foaming and defoaming properties. Disperses well in water.		•			•	•																	•	•	•		

• Highly recommended   ◦ Recommended



# Slip and leveling additives

## Basic Principles

DAPRO®, Levaslip and Levelol leveling and slip agents are based on modified polysiloxane and polyacrylate chemistries. They improve surface slip and leveling by quickly migrating to the coating surface and reduce surface tensions of the drying films. They promote levelling and eliminate the development of Benard cells, thus providing a uniform surface and color. In addition, the structures of the modified polysiloxanes provide a low coefficient of friction on coating surface after drying and enhance surface smoothness, slip and anti-scratch properties.

Polysiloxane leveling agents can negatively impact recoatability of dried films if they are too incompatible with other paint components or degrade under high temperature. Where the use of polysiloxane leveling agents is not recommended, Levelol polyacrylate leveling agents are the best alternatives for systems requiring good recoatability such as primers. They not only enhance film smoothness, but also promote leveling speed and substrate wetting. For very demanding applications, fluorocarbon-modified additives such as Levelol 837 and Levelol 839 are recommended.

## Slip and leveling additives

Product Name	Composition	Description	Solvent	Non-volatile content [%]	Solventborne	Waterborne	Application										
							Industrial coatings								Others		
							Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Adhesives and sealants	Inks	Leather coatings
SLIP-AYD® FS 444	Modified polysiloxane	Slip and mar resistance agent for a wide range of applications such as waterborne and polar solventborne applications	Dipropylene glycol ether	50.0	•	•			•		•		•	•	•	•	•
Levaslip 411	Modified polysiloxane	Improves slip and leveling properties, reduces craters, fish eyes and pinholes.	Toluene	7.2	•						•	•	•	•			•
Levaslip 432	Modified polysiloxane	Provides leveling, slip and substrate wetting, enhances orientation of matting silica to achieve uniform appearance.	Xylene/ethyleneglycol monobutyl ether/ toluene	13.5	•				•		•	•	•	•			

• Highly recommended    ○ Recommended

Slip and leveling additives

Product Name	Composition	Description	Solvent	Non-volatile content [%]	Solventborne	Waterborne	Application											
							Industrial coatings								Others			
							Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Adhesives and sealants	Inks	Leather coatings	
Levaslip 435	Modified polysiloxane	Provides excellent slip, anti-silicone effect, reduces coating’s defects such as pinholes and craters on contaminated substrates.	None	>98.0	●						○		○	○		●	●	
Levaslip 455	Modified polysiloxane	Enhances leveling, slip and and anti-floating properties. Provides anti-blocking for both water and solventborne applications.	Ethyleneglycol monobutyl ether	50.0	●	●					●		○	○	●	○	●	
Levaslip 466	Modified polysiloxane	Good flow, leveling and slip performance, excellent wetting properties. Prevents surface defects.	Xylene/ethyleneglycol monobutyl ether	24.0	●				●		●	●	●	●				
Levaslip 810	Modified polysiloxane	A modified polysiloxane, imparts leveling and slip performance.	N.A.	>90.0	●						●	○	●	●		●	●	
Levaslip 836	Modified polysiloxane	Good compatibility and recoatability in various non-aqueous coatings, enhances orientation in metallic and mat coatings.	Xylene/isobutanol	24.0	●						●	●	●	●				
Levaslip 866	Modified polysiloxane	An additive to increase mar resistance and to improve slip as well as surface flow, suitable for solventborne systems.	Xylene/ethyleneglycol phenyl ether	24.5	●						●	●	●	●				
Levaslip 875	Modified polysiloxane	Polysiloxane surface additive with excellent compatibility, anti cratering, slip and leveling for wood coatings and general industrial coatings.	Aromatic hydrocarbon solvent/ r-btyrolactone	50.0	●						●		●	●				
Levaslip 876	Modified polysiloxane	Good compatibility polysiloxane surface aditive to provide good substrate wetting, ant-cratering performance, slip and excellent leveling for wood coatings, and general industrial coatings.	Xylene/ethyleneglycol phenylether	13.0	●						●	●	●	●				
Levaslip 879	Modified polysiloxane	Excellent slip performance, good compatibility and recoatability.	N.A.	>94.0	●				●		●	●	●	●	●	●		
Levelol 495	Acrylic copolymer	Non-silicone flow and leveling agent, reduces craters and pinholes.	Xylene	50.0	●		●	●	●	●	●	●	●	●	●	●		
Levelol 835	Acrylic copolymer	Improves flow and leveling, good compatibility and intercoat adhesion.	Xylene	50.0	●		●	●	●	●	●	●	●				●	
Levelol 837	Fluorocarbon modified polyacrylate	Excellent substrate wetting, improves flow and leveling, good compatibilty and intercoat adhesion.	Xylene	70.0	●		●	●	●	●	●	●	●	●	●		●	
Levelol 839	Fluorocarbon modified polyacrylate	An aromatic free, flow and leveling agent used in solventborne coatings. It can reduce the surface tension of a coating system, and shows good substrate wetting. It prevents crater, pinhole, and fisheye defects.	Proplene glycol monomethylether acetate	50.0	●		●	●	●	●	●	●	●	●	●		●	
Levelol TSP	High boiling point solvents with surfactant	Leveling, anti-blushing, anti-popping agent, helps release of entrapped air.	Aromatic hydrocarbon solvent	100.0 (active)	●		●	●	●	●	●	●	●	●				
Levelol W-469	Modified polysiloxane	Silicone type substrate wetting agent for waterborne systems.	N.A.	ca. 100.0		●		●	●		●	●	●	●	●	●	●	
SUPREAD™ 3410	Modified polysiloxane	Excellent substrate wetting and anti-cratering property, low foaming tendency, specially developed for waterbased industrial coatings for wood, plastic, metal, etc.	N.A.	>90.0		●		●	●		●	●	●	●	●	●		
DAPRO® W-77	Anionic surfactant mix	Interfacial tension modifier for industrial coatings and inks.	Butoxyethanol / Ethanol / Water	50.0		●					●		●	●	●	●	●	

● Highly recommended   ○ Recommended



## Specialty additives

### Rust Inhibitors

NALZIN® FA 179 and NALZIN® FA 180 are flash rust and corrosion inhibitors for waterborne coatings to counteract flash rusting. They may be used as inhibitors against in-can corrosion as well.



	After 1 hr.	After 2 hr.	After 3 hr.	After 24 hr.
+0.30 wt% NALZIN® FA 179	0	0	0	0
Blank	6	6	16	90

### NALZIN® Flash rust inhibitors

NALZIN® flash rust inhibitor support the reduction of flash-rust formation and minimize in-can corrosion.

### Adhesion Promoters

Elementis supplies a range of Adherent and DAPRO® adhesion promoters to improve adhesion of coating films on various substrates. Adherent 1121 is an amino silane coupling agent which improves the adhesion of air-dry alkyd paints to glass and metal substrates. It also improves the salt spray resistance of epoxy coating film when subject to high humidity or water immersion conditions.

Adherent ADP is a non-silicone polymeric compound that improves adhesion of paint film on non-ferrous substrates. Used mainly in baking paints, it improves the flexibility and impact resistance of paint films and shows good thermostability. Adherent ADP does not discolor at elevated temperature.

Adherent APW is an additive that improves intercoat adhesion and binding of metal pigments in the paint film. It also improves the flexibility and chemical resistance of paint films of acrylic and alkyd baking paints.

Adherent CP-7540 is a chlorinated polyolefin modified acrylic resin that gives excellent adhesion property in solventborne primers for PP bumpers. DAPRO® ACP- 16W is an APEO and VOC-free waterborne acrylic modified chlorinated polyolefin dispersion that provides excellent adhesion on polypropylene (PP) and thermoplastic polyolefin (TPO) substrates. DAPRO® ACP-16W can be used as the main resin or combined with other resins. It may be formulated into clear coat or colored coat for waterborne automotive basecoats, adhesives and inks, etc.

### DAPRO® Coalescing agent and plasticizer

DAPRO® FX 514 is used for the reduction of the film formation temperature. In adhesive formulations it shows a plasticizing effect depending on use level.

Specialty additives

Product Name	Composition	Description	Solventborne	Waterborne	Application																							
					Architectural coatings						Industrial coatings								Construction						Others			
					Exterior coatings	High PVC coatings	Flat coatings	Semi-gloss/ gloss coatings	Water reducible coatings	Can coatings	Car-OEM coatings	Car refinish coatings	Coil coatings	General industrial coatings	Marine protective coatings	Plastic coating	Wood coatings	Asphalt emulsion	Concrete	Grouts	Plaster/stucco	Roof coatings	Tile adhesive	Adhesives and sealants	Inks	Leather coatings		
Adhesion promoters																												
DAPRO® ACP-16W	Chlorinated polyolefin modified acrylic emulsion	Promotes adhesion of waterborne coatings and inks on polypropylene substrates.		•							•	•	•				•									•		
Adherent 1051	Epoxy silane	Improves adhesion of solvent-borne coatings to inorganic surfaces.	•								•	•		•	•		•								•	•		
Adherent 1121	Amino silane	Promotes adhesion of paint to glass and metal substrates and enhances salt spray resistance.	•	•							•	•		•	•		•								•	•		
Adherent ADK	Non-silicone polymeric solution	Improves adhesion of OPP laminating inks on PET film. Does not effect gloss or color strength of printing inks.	•														•	•							•	•		
Adherent ADP	Non-silicone polymeric compound	Improves adhesion of stoving paints on non-ferrous substrates.	•										•	•	•													
Adherent APC	Non-silicone polymeric solution	Improves adhesion of 2K PU coatings on polycarbonates.	•														•	•										
Adherent APW	Non-silicone polymeric solution	Improves inter-coat adhesion and fixing of aluminum flakes.	•												•	•	•								•			
Adherent CP-7540	Chlorinated polyolefin modified acrylic resins	Improves adhesion of primer on PP substrates.	•								•	•					•											
Adherent PPB	Chlorinated PP	Improves adhesion of primer on PP substrates.	•									•					•									•		
Coalescents																												
DAPRO® FX 514	Plasticizer	Coalescing agent for VOC compliant systems.		•	•	◦	•	•															•		•			
Flash rust inhibitors																												
NALZIN® FA 179	Zinc complex in a mixture of solvents	Liquid flash rust inhibitor for waterborne systems.		•					•				•	•														
NALZIN® FA 180	Zinc complex in a mixture of solvents	Liquid flash rust inhibitor for waterborne systems.		•					•				•	•														
Amine Neutralizer																												
DeuAdd MA-95	Aminoalcohol	Neutralizer to adjust and stabilize pH of waterborne systems.		•	•	•	•	•	•				•	•		•	•								•	•	•	
Catalysts																												
Catacure KB	Acidic polymer	Curing catalyst for melamine baking paint.	•											•														
Catacure KC	Amine salt of p-toluenesulfonic acid	Blocked curing catalyst for fully alkylated melamine baking paints, enables lower baking temperatures or shorter baking times.	•											•														

● Highly recommended    ○ Recommended

## Hydroxyl acrylic resins

### Basic principles

Polyurethanes coatings are two-component systems consisting of hydroxyl acrylic resins, pigments, additives and solvents on the one part, and isocyanate curing agents on the other part. They provide many good features such as excellent mechanical properties, decorative properties (high gloss, high film build), weathering resistance, chemical resistance, and adhesion to a wide range of substrates.

The coating film can be cured under ambient drying and low temperature baking conditions. Film gloss and appearance can be customized on demand. Because of these features, they are widely used in protective coatings, marine coatings, auto refinishes, metal coatings, general industrial coatings, coatings for public transport (buses, trains, trucks, etc.) and ACE machineries (agriculture, construction and earth moving), plastic coatings, wood coatings, etc.

Hypomer MT-series of high performance matting resins Hypomer MT-2550F and Hypomer MT-2550K are hydroxyl acrylic resins that give excellent matting effect yet better clarity and transparency than conventional 2K PU coatings containing silica matting agents. Apart from the excellent optical properties, these resins also provide good hand feel, slip as well as excellent adhesion on plastic substrates such as ABS and ABS/PC. A key benefit of these resins is their gloss consistency over a wider range of dry film thickness compared to the conventional system in spray application.

Both Hypomer MT-2550F and Hypomer MT-2550K allow the formulation of coatings with varying degrees of gloss (from full matt to semi-gloss finishes) by combining with other hydroxyl acrylic resins. The resultant coatings can be used in various industrial applications such as 3C products (computers, communication and consumer), automotive interior and exterior coatings, auto refinishes, wood coatings and inks.

### Hypomer FS-2060A for special substrate

Hypomer FS-2060AF is an aromatic-free hydroxyl acrylic resin developed for difficult-to-adhere substrates such as aluminum and its alloys, galvanized sheet, chrome plated sheet, polycarbonate, ABS/PC, nylon, etc. It also shows good pigment wetting and compatibility with CAB. It can be formulated into pigmented coatings and metallic coatings with excellent substrate/intercoat adhesion, good film properties and ease of application.

### Hypomer FS-4075AF

Hypomer FS-4075AF is a new generation of high solid content and low viscosity hydroxyl acrylic resin with no benzene, toluene and xylene present. It effectively reduces the VOC of a paint formulation and is more environmentally friendly. In spray application, Hypomer FS-4075AF provides excellent film performance including long/short wavelength leveling, high film build, high gloss and DOI. With all these benefits, it is suitable for high quality paint film coatings, such as automotive coatings, car refinish coatings and railway coatings.

Resins

Product Name	Composition	Description	Non-volatile content %	OH %	Application					
					Car-OEM coatings	Car Refinish coatings	General industrial coatings	Inks	Plastic coating	Wood coating
Hypomer AC-7435	Acrylic copolymer	Fast drying, good hardness, good adhesion to plastic surfaces. Good water sweat and alcohol resistance.	48.0 - 52.0	N.A.					●	
Hypomer AC-7450	Acrylic copolymer	Rapid drying, good adhesion to plastics, alcohol resistance.	48.0 - 52.0	N.A.					●	
Hypomer FS-1560	Hydroxyl acrylic copolymer	Fast drying,Good adhesion on plastic substrates	59 - 62	0.9			●		●	
Hypomer FS-2050	Hydroxyl acrylic copolymer	Rapid drying, good adhesion to plastics.	49.5 - 52.0	1.00	●	●	●		●	
Hypomer FS-2052	Hydroxyl acrylic copolymer	Fast drying, weather resistance, good compatibility with CAB.	48.0 - 52.0	1.00	●	●	●	●	●	
Hypomer FS-2060A	Hydroxyl acrylic copolymer	Good adhesion on plastic and metal substrates. Good weather resistance.	59 - 61	1.2		●	●		●	
Hypomer FS-2060B	Hydroxyl acrylic copolymer	Automobile refinishes, plastic coatings.	58.0 - 62.0	1.20	●	●	●		●	●
Hypomer FS-2451	Hydroxyl acrylic copolymer	Fast drying and high hardness, good adhesion to plastic substrates. Good alcohol resistance, good orientation of metallic pigments, good compatibility with cellulose acetobutyate (CAB) and nitrocellulose.	48.0 - 52.0	1.20	●	●	●		●	
Hypomer FS-2451F	Hydroxyl acrylic copolymer	Fast drying, high hardness, good solvent resistance, good adhesion to plastic substrates, good orientation of metallic pigments, more environmentally friendly solvent.	48.0 - 52.0	1.20	●	●	●		●	
Hypomer FS-2460A	Hydroxyl acrylic copolymer	Good adhesion to plastics, excellent weather and yellowing resistance.	59.0 - 62.0	1.44	●	●	●		●	●
Hypomer FS-2820	Hydroxyl acrylic copolymer	Good adhesion to plastics, excellent weather and yellowing resistance.	59.0 - 62.0	1.68	●	●	●		●	●
Hypomer FS-2860A	Hydroxyl acrylic copolymer	High film build, gloss and DOI, good leveling, good pigment wetting.	58.0 - 61.0	1.68	●	●	●		●	●
Hypomer FS-2970B	Hydroxyl acrylic copolymer	High film build, high gloss.	67.5 - 70.0	2.03	●	●	●		●	
Hypomer FS-2970F	Hydroxyl acrylic copolymer	High film build, gloss and DOI, good leveling, good pigment wetting.	67.0 - 71.0	2.03	●	●	●		●	
Hypomer FS-3060	Hydroxyl acrylic copolymer	Low viscosity, excellent film build, gloss and DOI, fast curing speed, excellent hardness and solvent resistance, pigment dispersibility.	59.0 - 62.0	1.80	●	●	●		●	●
Hypomer FS-3270	Hydroxyl acrylic copolymer	High film build, high gloss, DOI.	68.0 - 72.0	2.24	●	●	●		●	●
Hypomer FS-3270F	Hydroxyl acrylic copolymer	High film build, High gloss, DOI, Good curing speed, hardness, Gasoline and solvent resistance	68~72	2.24		●	●		●	
Hypomer FS-3566F	Hydroxyl acrylic copolymer	Excellent film build, gloss and DOI, fast cure, long pot-life, low VOC, BTX-free.	63.0 - 67.0	2.28	●	●	●		●	●
Hypomer FS-4075AF	Hydroxyl acrylic copolymer	High solids low viscosity, good leveling, high film build.	73.0 - 77.0	3.00	●	●	●		●	
Hypomer FS-4365A	Hydroxyl acrylic copolymer	Automobile refinish, transportations and industrial applications.	63.0 - 66.0	2.80	●	●	●		●	
Hypomer FS-4470	Hydroxyl acrylic copolymer	High solid with low viscosity, high gloss and film build, good leveling.	68.0 - 72.0	3.10	●	●	●		●	
Hypomer FS-4660P	Hydroxyl acrylic copolymer	Superior gloss and DOI, good leveling, solvent resistance.	57.5 - 61.5	2.76	●	●	●		●	●
Hypomer FX-2050	Hydroxyl acrylic copolymer	Rapid drying, good adhesion to plastic substrates.	50.0 - 52.0	1.00	●	●	●		●	
Hypomer FX-2060A	Hydroxyl acrylic copolymer	Good adhesion on plastics Good adhesion on metal substrates Good weather resistance	58 - 61	1.20	●	●	●		●	

Resins

Product Name	Composition	Description	Non-volatile content %	OH %	Application					
					Car-OEM coatings	Car Refinish coatings	General industrial coatings	Inks	Plastic coating	Wood coating
Hypomer FX-2060D	Hydroxyl acrylic copolymer	Fast drying Good hardness Good solvent resistance	58 - 61	1.20	●	●	●		●	
Hypomer FX-2451F	Hydroxyl acrylic copolymer	Fast drying and high hardness, good adhesion to plastic substrates, good alcohol resistance, more environmentally friendly solvent composition.	48.0 - 52.0	1.20	●	●	●		●	
Hypomer FX-2820	Hydroxyl acrylic copolymer	Good weather resistance Good pigment wetting	59.5 - 63.0	1.68	●	●	●		●	
Hypomer FX-2820F	Hydroxyl acrylic copolymer	Good pigment wetting, good weather resistance, more environment friendly solvent composition.	58.0 - 62.0	1.68	●	●	●		●	●
Hypomer FX-2860A	Hydroxyl acrylic copolymer	High gloss, good hardness, rapid drying, fast curing, solvent resistant, good film build.	58.0 - 62.0	1.68	●	●	●		●	●
Hypomer FX-2970A	Hydroxyl acrylic copolymer	High film build, gloss and DOI.	67.5 - 70.5	2.03	●	●	●		●	
Hypomer FX-3270	Hydroxyl acrylic copolymer	High film build, high gloss, DOI.	67.0 - 71.0	2.24	●	●	●		●	●
Hypomer FX-4660	Hydroxyl acrylic copolymer	High gloss, superior leveling, hardness and high crosslinking density.	58.5 - 61.5	2.76	●	●	●		●	●
Hypomer MT-2350	Hydroxyl acrylic copolymer	Good matting function, easy incorporation, less sedimentation.	48.0 - 52.0	1.17	●	●	●	●	●	●
Hypomer MT-2550F	Hydroxyl acrylic copolymer	Matting resin, yields better transparency than conventional matt coatings based on silica matting agents, smooth film with excellent touch feel, good weathering resistance.	48.5 - 52.0	1.25	●	●	●	●	●	●
Hypomer MT-2550K	Hydroxyl acrylic copolymer	Based on the polymer in Hypomer MT-2550F but contains a more environmentally friendly solvent mixture.	48.5 - 52.0	1.25	●	●	●	●	●	●

● Highly recommended    ○ Recommended

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[www.elementis.com](http://www.elementis.com)

**NOTE:**

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