



DISPARLON[®]

For Waterborne Systems
Rheology, Surface Control and Dispersants

DISPARLON® additives are manufactured by Kusumoto Chemicals Ltd. of Tokyo, Japan. Through a **technology partnership** spanning over three decades, **King Industries, Inc.** serves as exclusive sales, technical service and marketing arm in **North and South America**.

Choosing the correct **waterborne additive** will optimize your system and give your product the edge over its competition. King Industries offers a wide variety of **thixotropes, dispersants and surface control** additives. We encourage our customers to work with our highly experienced technical service team to select the proper additive for their demanding **coatings application**.

The **DISPARLON**[®] trade name is applied to a series of functional additives used in paint, ink, adhesive and sealant markets worldwide. Major product lines include rheology modifiers, dispersants and surface control agents.



DISPARLON

DISPARLON Selection

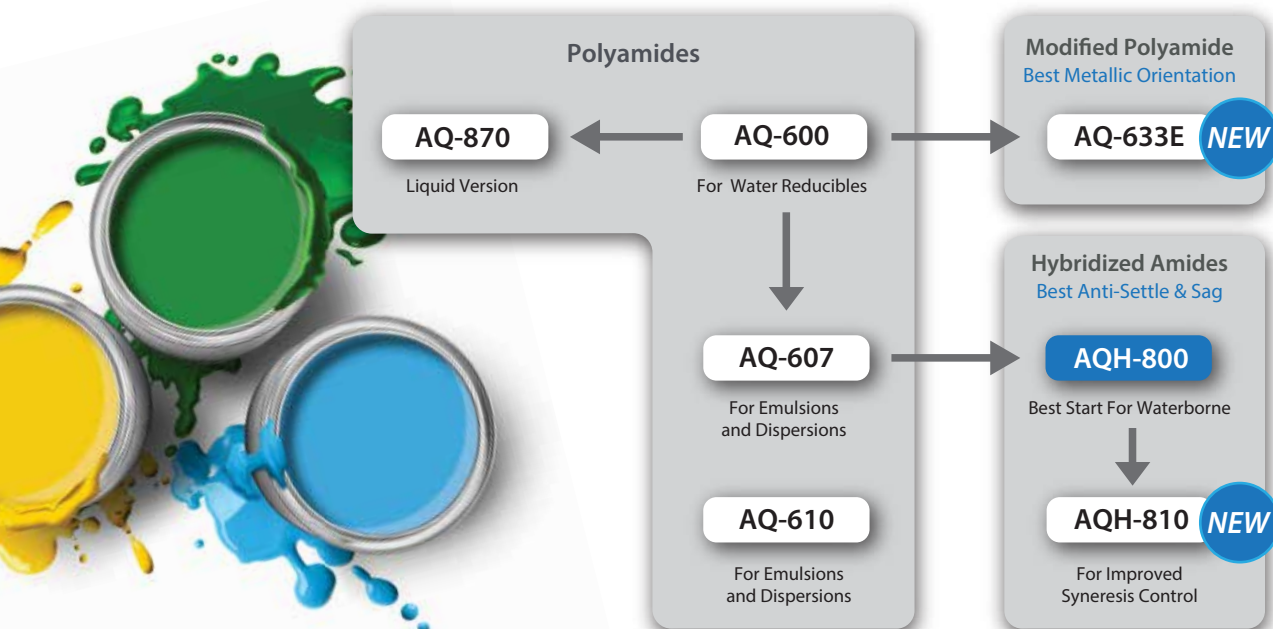
Additive Type	Typical Attributes / Properties
<p>Rheology Modifiers Anti-Sagging Anti-Settling</p>	<p>A range of anti-settling, anti-sagging and pigment orientation agents which are recommended for use in coatings, inks, varnishes and stains. They are extremely shear thinning, which allows for easy application by spray, dip, brush or roller, while maintaining excellent anti-settling in the container.</p>
<p>Dispersants</p>	<p>The AQ series of dispersants are designed for a variety of hard to disperse pigments. DISPARLON AQ-320 and AQ-330 are especially recommended for pearlescent and metallic pigments, while DISPARLON AQ-380 was designed for dispersing carbon black and other organic pigments.</p>
<p>Defoaming Anti-Popping</p>	<p>A variety of additives designed to eliminate entrapped air and improve gloss and clarity, while preventing pinholes. Available for air dry and baked systems.</p>
<p>Leveling Anti-Cratering Wetting</p>	<p>A group of surface control agents based on a specially prepared acrylic, silicone and acrylic silicone copolymers. These products have the unique ability to eliminate cratering caused by various kinds of surface contaminants and spray mists.</p>

Rheology Modifiers / Anti-Sagging / Anti-Settling

The **DISPARLON® AQ Series** of polyamide associative rheology modifiers is designed to suspend dense materials such as metallic, pearlescent and iron oxide pigments, while maintaining low “in can” viscosity and good sag resistance. New products have been developed to improve ease of incorporation and performance properties.

Product	Volatile	Active	Additive Level (Total Formula Weight)	Application
Acrylic Rheology Modifier				
AQ-001	Water, Dimethylethanolamine	15% Liquid	0.5-5.0%	Post addable, highly thixotropic NEW
Polyamide Rheology Modifiers				
AQ-600	Water, Propylene glycol monomethylether	20% Gel	1.0-5.0%	Water reducible systems Also available as a liquid - AQ-870
AQ-607	Water, Propylene glycol monobutylether	15% Gel	1.0-5.0%	Emulsions and dispersions, best compatibility, excellent efficiency Also available as ZERO VOC - AQX-60
AQ-610	Water, Propylene glycol monomethylether	15% Gel	1.0-5.0%	Emulsions and dispersions Also available as ZERO VOC - AQX-61
AQ-633E	Water, Propylene glycol monomethylether	22.5% Soft Gel	1.0-5.0%	Best metallic and pearlescent pigment orientation, post addable NEW
Hybrid Rheology Modifiers				
AQH-800	Water, Propylene glycol monomethylether	10% Soft Gel	1.0-5.0%	First recommendation for all waterborne, anti-settle/anti-sag, post-addable, easiest to use
AQH-810	Water, Propylene glycol monomethylether	15% Soft Gel	1.0-5.0%	AQH-800 with enhanced syneresis control, post addable NEW

Amide Selection Tool



DISPARLON AQH-800 is an easy to use rheology control additive based on hybridized amide technology developed for waterborne systems. It forms unique needle-like structures within the formulation, which provides excellent sag control and prevents pigment settling and hard cake development.

DISPARLON AQH-800 is ideal for coatings requiring good pigment suspension, while maintaining a low "in-can" viscosity.

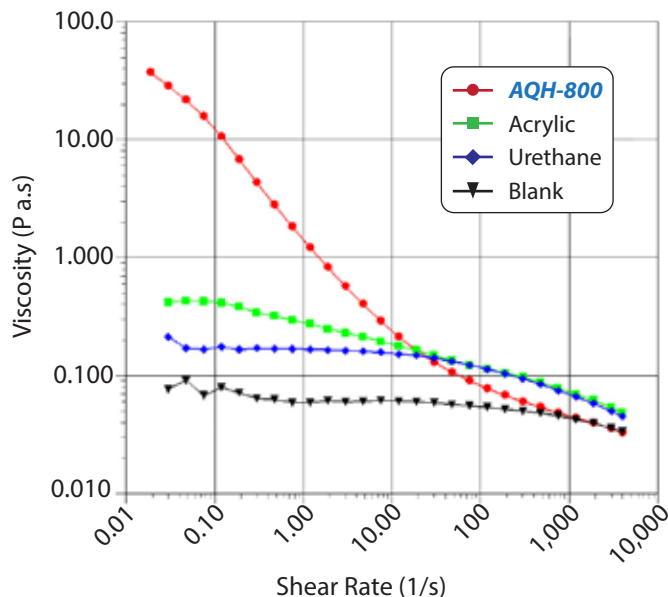
AQH-800 Performance: Shear Thinning, Salt Spray, Anti-Sag, Anti-Settle

Shear Thinning

DISPARLON AQH-800 imparts an excellent thixotropic effect without a large increase in viscosity, making it unique when compared to other rheology control agents. AQH-800 is also extremely high shear thinning which allows for easy application by spray, dip, brush or roller, while maintaining excellent pigment suspension within a container.

Shear Thinning

NeoCryl XK-98 DSM Neo Resins
Viscosity: FC#4 27 sec. (25°C)



Anti-Sag & Anti-Settle

The photos below demonstrate the excellent anti-sagging and long-term anti-settle performance of DISPARLON AQH-800 compared to other modifier types. Typical dosage is 2-3% on total formula weight.

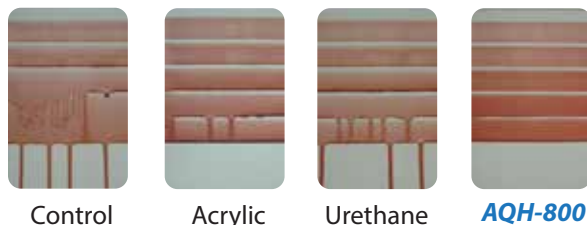
Anti-Settle Comparison - 1 Week at 50°C

1K Self-Crosslinking Wood Coating - NeoCryl XK-98
Application Viscosity: FC#4 27 sec. (25°C)



Anti-Sagging Comparison

1K Self-Crosslinking Wood Coating - NeoCryl XK-98
Application Viscosity: FC#4 27 sec. (25°C)

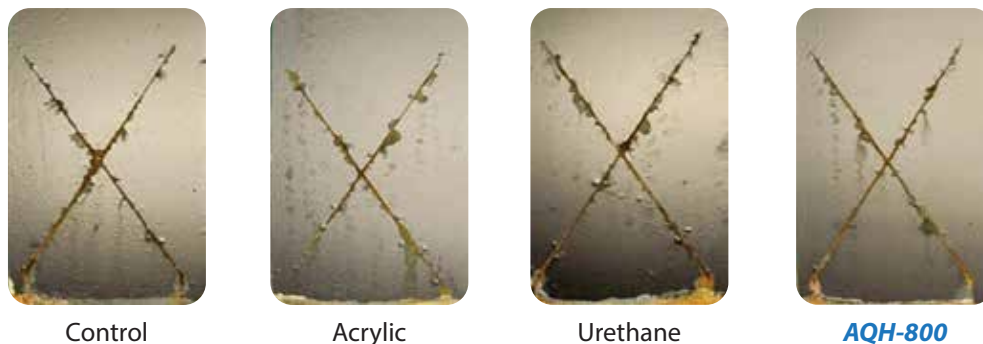


Salt Spray

The photos below demonstrate salt spray performance and hydrophobic nature of DISPARLON AQH-800 compared to other rheology modifiers.

Anti-Corrosion Comparison - 2 Weeks

2K Epoxy-amine Anti-corrosive Primer - Substrate: SPCC-SD
Dry Film Thickness: 50µm



DISPARLON® AQ-300 series of dispersants are specifically designed to aid in the dispersion of metallic and pearlescent and carbon black and other organic pigment types.

SELECTION GUIDE (DISPERSANTS for Water Borne Systems)															
PIGMENTS	Aluminum	Pearl	Carbon Black	Quinacridone Magenta	Phthalocyanine Blue	Phthalocyanine Green	Isindolinone Yellow	Red Iron Oxide	Titanium Oxide (TiO ₂)	Zinc Oxide (ZnO)	Talc	Barium Sulfate (BaSO ₄)	Calcium Carbonate (CaCO ₃)	Barium Titanate (BaO ₃ Ti)	Alumina (Al ₂ O ₃)
PRODUCTS															
AQ-320	Strongly Recommend	Strongly Recommend	Recommend	Recommend	Strongly Recommend			Strongly Recommend	Strongly Recommend	Strongly Recommend	Recommend	Recommend	Recommend	Recommend	Recommend
AQ-330	Strongly Recommend	Strongly Recommend	Recommend	Recommend	Strongly Recommend	Strongly Recommend	Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Recommend	Strongly Recommend	Recommend	Recommend	Recommend
AQ-380	Recommend	Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Strongly Recommend	Recommend	Recommend	Recommend	Recommend	Recommend

■ Strongly Recommend
 ■ Recommend

Product	Volatile	Active	Additive Level (Total Formula Weight)	Application
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Polyester Phosphate

AQ-320	-	100%	1.0-2.0% (In-organic pigment), 30-100% (Organic pigment)	Pearlescent & metallic pigment dispersions made with co-solvent such as butyl glycol
AQ-330	-	100%		Pearlescent & metallic pigment dispersions made without co-solvent

Acrylic Polymer

AQ-D400	-	30%	3.0-30% (In-organic pigment), 40-130% (Carbon black / Organic pigment)	Specifically designed to disperse carbon black and organic pigments in waterborne formulations
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Dispersion of Aluminum Paste

Waterborne Basecoat



Blank



DISPARLON AQ-330

Dispersion of Pearlescent Paste

Waterborne Basecoat



Blank



DISPARLON AQ-320



DISPARLON AQ-300 series dispersants work synergistically with AQH Rheology Modifiers to improve separation and pigment dispersion in various formulations.

Defoaming / Anti-Popping

Product	Volatile	Active	Additive Level (Total Formula Weight)	Application
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Vinyl Polymer

AQ-501	2-ethylhexyl alcohol, Mineral Oil	85%	0.3-1.0%	Anti-popping agent for waterborne bake systems
AQ-7533	Hydrocarbon, 2-ethylhexyl alcohol	30%	1.0-3.0%	Universal defoamer and anti-popping agent for all types of waterborne coatings

Defoaming Performance



Blank



With **DISPARLON**



Leveling / Anti-Cratering / Wetting

Product	Volatile	Active	Additive Level (Total Formula Weight)	Application
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Polyether Modified Silicone

LS-430	Propylene glycol monomethylether acetate	50%	0.03-1.0%	Wetting and leveling, wood, plastic, general industrial
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Acrylic

AQ-200	Butyl cellosolve	20%	0.3-1.0%	Leveling with good recoatability, bake and air dry coatings
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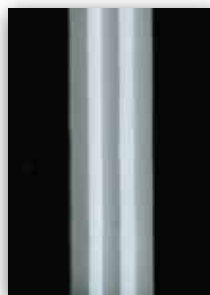
Silicone Acrylic Copolymer

AQ-7120	2-Ethylhexyl alcohol	30%	0.5-1.5%	Excellent wetting, leveling with excellent recoatability
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Leveling Performance



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With **DISPARLON**

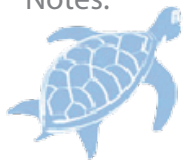


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With **DISPARLON**

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