



Dispersing agents for waterborne paints



Alcosperse®

Nouryon

Alcosperse[®] dispersing agents

Our range of polyacrylic dispersing agents help formulators create innovative waterborne paints and coatings with excellent performance characteristics.

Our Alcosperse range of dispersing agents are suitable for a broad variety of water based paints and coatings such as architectural paints, both interior and exterior, as well as industrial paint formulations, acrylic based wood coatings, metal coatings and floor care etc.

Ask us how to ...

- select a suitable Alcosperse dispersant from our portfolio
- optimize your formulation performance
- achieve excellent water mark resistance

Technical properties

	Alcosperse 492	Alcosperse 602N	Alcosperse 747	Alcosperse 787
Appearance at 25°C	clear to amber liquid	clear, colorless to slightly amber liquid	slightly yellow transparent liquid	clear; light yellow to amber liquid
Molecular weight average	5,000	5,000	3,000	3,000
pH	7-9	7-8	8-10	7-8
Solid content, %	39-41	44-46	39-41	30-32
Solubility in water	partially	soluble	soluble	soluble

Characteristics are typical data based on our own measurements or derived from the literature. They do not constitute part of the delivery specification.

Our products are available in most countries, please check with your regional sales contact

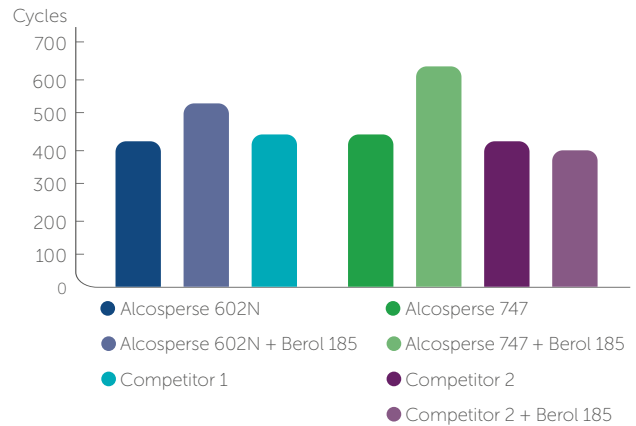
Performance evaluation

Formulation

	Weight (g)
Water	348.5
Bermocoll cellulose ether	5.0
Neutralizer	1.0
Defoamer	2.0
Dispersant (40% active)	3.5
CaCO ₃	187.0
TiO ₂	100.0
Kaolin clay	124.0
Preservative	2.0
Defoamer	2.0
VAE latex binder	225.0
Total	1000.0

Scrub resistance

Scrub resistance was evaluated according to ASTM D 2486 using a PVC 60 formulation with a VAE latex and different Alcosperse grades. The effect of additional non-ionic wetting agent was also evaluated.



Color acceptance performance

Color acceptance, in a PVC 60 formulation, using the Alcosperse grades was evaluated for three different types of binders in combination with two of our Bermocoll products. The amount of colorant was 3% based on total paint weight.



Alcosperse[®] 787

Alcosperse 787 is a novel hydrophobically modified acrylic copolymer dispersing agent. It demonstrates good dispersing efficiency of pigments and fillers in paint.

Compared with competitive dispersants, Alcosperse 787 dispersing agent also provides excellent color acceptance with both inorganic and organic colorants.

Benefits

- Excellent water mark resistance
- Good color acceptance
- Good storage stability
- Excellent pigment dispersion

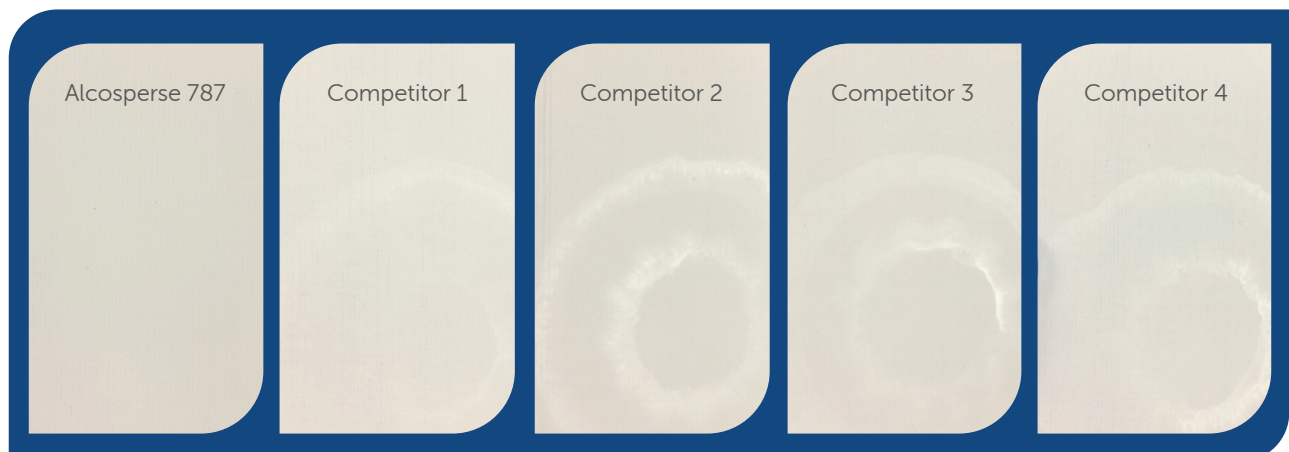
Performance evaluation

Excellent water mark resistance and color acceptance

Tests conducted by our scientists show that formulations containing Alcosperse 787 dispersing agent exhibit excellent watermark resistant performance when compared with other competitive dispersants.

Test method

Two layers of film with 120 μ m then 80 μ m were drawn down with applicator on 150mm x 70mm x 4~6mm cement plate. After six hours, when base coat dried, a top coat was applied. The cement plate was left at room temperature for 24 hours and then a 1ml water was dropped on the film. When the water dried completely, the water mark on the film was observed.



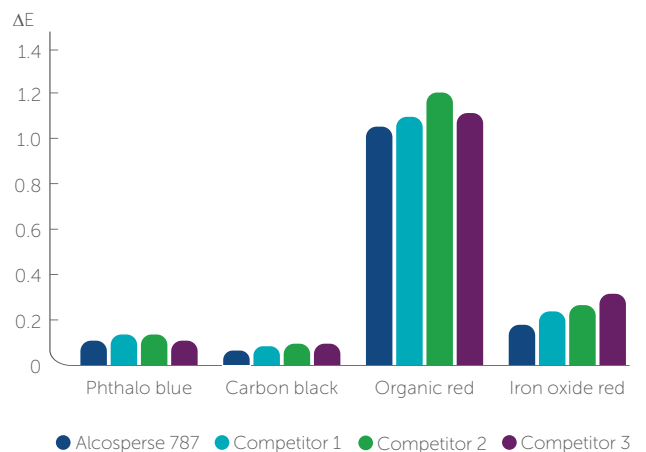


Exterior paint formulation

	Weight (g)
Water	306
Propylene Glycol	15
Bermocoll cellulose ether	6
Neutralizer	1
Dispersant	7
Wetting agent	2
Defoamer	1
TiO ₂	150
CaCO ₃	150
Clay	90
Latex, (47.5%)	250
Coalescent	18
Defoamer	2
Preservative	2
Total	1000

Color acceptance, 2% colorant and rub out

An effective way of evaluating the performance of the colorant is to check the color acceptance in various base paints. Good color acceptance (low dE_{00} number) is a sign of a well dispersed system.





Dispersing efficiency

Test results demonstrate superior performance of Alcosperse 787 dispersing agent when compared to competitive dispersants.

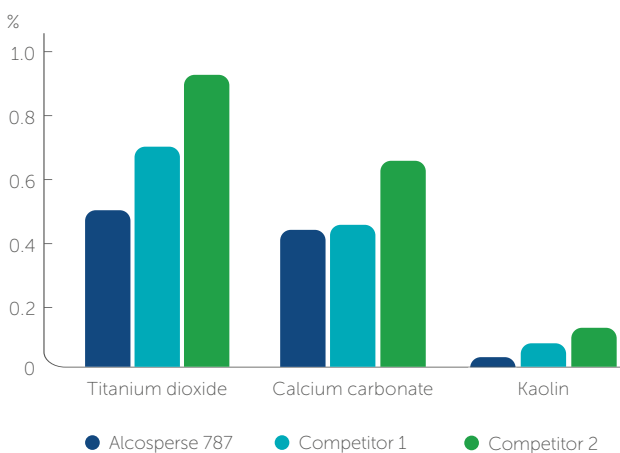
Test method

Demand curve was used to evaluate the dispersing efficiency of dispersants.

Procedure:

- Water and pigment or fillers were mixed to slurry
- Dispersants were added in 0.1-0.2g intervals to the slurry while stirring. Amount of dispersant and Brookfield viscosity of the slurry were recorded. The dispersant dosage at the lowest Brookfield viscosity is the minimum dosage.

Minimum dispersant demand data



Gloss and opacity performance

Test results demonstrate that formulations containing Alcosperse 787 dispersing agent have better or similar performance when compared with competitive products.

Gloss test results

Dispersant agent	Temperature (ambient)		
	20°	60°	85°
Alcosperse 787	1.3	2.9	5.3
Competitor 1	1.3	2.9	4.8
Competitor 2	1.3	2.7	4.9
Competitor 3	1.3	2.8	5.1
Competitor 4	1.3	2.7	4.2

Prepared film on a black and white paper card board by a 100µm bar applicator and tested by the gloss meter

Opacity test

Dispersant agent	Opacity
Alcosperse 787	94.30
Competitor 1	94.28
Competitor 2	94.29
Competitor 3	93.31
Competitor 4	93.50

Prepared film on a black and white paper card board by a 100µm bar applicator and tested by the colorimeter



Contact us directly for detailed product information and sample request.
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Nouryon

Nouryon is a global, specialty chemicals leader. Markets and consumers worldwide rely on our essential solutions to manufacture everyday products, such as personal care, cleaning goods, paints and coatings, agriculture and food, pharmaceuticals, and building products. Furthermore, the dedication of more than 7,900 employees with a shared commitment to our customers, business growth, safety, sustainability and innovation has resulted in a consistently strong financial performance. We operate in over 80 countries around the world with a portfolio of industry-leading brands. Visit our website and follow us @Nouryon and on LinkedIn.

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