

Performance Additives Brochure



CLiQSPERSE[®]
wetting & dispersing agents

CLiQFLOW[®]
rheological additives

CLiQSMART[®]
defoamer & special additives

CLiQ



CLIQSPERSE® wetting and dispersing agents for non-aqueous systems

CLIQSPERSE®	Product Chemistry	Active Content	Solvents / Diluents
BA	polymeric resin-like	73 %	white spirit
BF	high molecular weight dispersant	45 %	xylene / MPA
BL	high molecular weight dispersant	43 %	MPA / butyl acetate
BU	high molecular weight dispersant	45 %	MPA
BT	high molecular weight dispersant	53 %	xylene / MPA
CA	salt of polycarbonic acid with polyamine	53 %	xylene / isobutanol
CA-100	salt of polycarbonic acid with polyamine	100 %	none
HA-50	phosphate ester copolymer	55 %	aromatic hydrocarbon / MPA
HA	phosphate ester copolymer	100 %	none
HK	neutralised phosphate ester	100 %	none
NI	block-copolymer	100 %	none
NQ	block-copolymer	100 %	none
PH	polymeric alkylammonium salt	100%	none
PH-2	modified polymeric alkylammonium salt	100%	none
131	acidic co-polymer	100 %	none



Function			Main Application			Special Feature	CLIQSPERSE®
Compatibility agent	Wetting agent	Dispersing agent	Coatings / Paints	Pigment concentrates	Base paints		
	+	+++	+++	++	+	multi-purpose grinding resin	BA
	+	+++	++	+++	++	broad pigment compatibility excellent for resin based pigment concentrates	BF
	+	+++	++	+++	+++	aromatic-free dispersant with broad pigment and binder compatibility	BL
	+	+++	++	+++	+++	broad pigment and system compatibility from low-to-high polar systems	BU
	+	++	++	+++		excellent for direct grinding of pigments and extenders	BT
	+++	+	++	+	+++	organoclay activator	CA
	+++	+	++	+	+++	for solvent-free and high solids systems	CA-100
		+++	++	+	++	excellent for direct grinding of inorganic pigments and extenders	HA-50
		+++	++	+	++	excellent for inorganic pigments and extenders; for solvent-free applications	HA
++	++	+++	+++		++	excellent for direct grinding of pigments and extenders in all kind of non-aqueous systems	HK
+	++	+++	++	+++		pigment dispersant, particularly carbon black; excellent for NC inks	NI
	++	+++	+	+++	+	highly recommended as pigment dispersant for 100% UV coatings and inks	NQ
	++	+++	++	+++		broad pigment compatibility excellent for mid- to high polar systems	PH
	++	+++		+++		solvent-free and high solids coatings, adhesives, liquid masterbatches; excellent for carbon blacks	PH-2
+		+++	+++		++	for inorganic pigments and extenders; particularly recommended for 100% systems	131





CLiQFLOW® rheological additives for non-aqueous systems

CLiQFLOW®	Product Chemistry	Active Content	Activation Requirements
LP	organically modified smectite clay	100 % powder	high shear, dwell time, polar activator, pre-gel
LED	easy to disperse, organically modified smectite clay	100 % powder	shear, dwell time, polar activator beneficial
MMC	very easy to disperse organically modified mixed mineral	100 % powder	shear, dwell time, polar activator beneficial
755	polyethylene wax	20 % liquid/paste	shear, temperature
780	urea urethane	40 % liquid	stirring / mixing

CLiQSMART® defoamer & special additives for non-aqueous systems

CLiQSMART®	Product Chemistry / Active Content	VOC-free	Incorporation Requirements
AF	polysiloxane defoamer 100 %	no	low shear
AP	polymeric defoamer 100%	no	low shear
PD-20	polysiloxane modified polymeric defoamer, 100%	no	low shear
HV-30	MEKO-free anti-skinning agent 30 %	no	low shear



Performance Benefits	Main Application	CLIQFLOW®
provides storage stability, sag resistance and flow control	aliphatic and aromatic non-aqueous systems; industrial and decorative coatings, greases and inks	LP
provides storage stability, sag resistance and flow control	aliphatic and aromatic non-aqueous systems; industrial and decorative coatings, greases and inks	LED
provides storage stability, sag resistance and flow control	non-aqueous systems, industrial and decorative coatings, thermosets; allows very high pre-gel concentrations	MMC
anti-settling for pigmented systems, no influence on application viscosity	pigmented industrial systems, marine & protective coatings, aerosols	755
strong thixotropic flow for storage stability and sag resistance	solvent-free, aliphatic to high polar systems; industrial coatings, marine/protective	780

Application Field					Main Application / Remarks	CLIQSMART®
Clear systems	Pigmented systems	Gloss systems	Silk gloss systems	Matt systems		
+	+++	++	++	+++	multi-purpose defoamer for industrial non-aqueous coatings	AF
	+++	+	++	+++	polysiloxane free multi-purpose defoamer for industrial coatings	AP
	+++		+	+++	excellent defoamer for high build epoxy systems	PD-20
prevents skin formation in air dry alkyds					deorative and light industrial alkyds; MEKO alternative	HV-30



CLIQSPERSE® wetting and dispersing agents for aqueous systems

CLIQSPERSE®	Product Chemistry	Active Content	Solvents / Diluents
123	polyglycoether	100 %	none, VOC-free
124	polyglycoether	90 %	water, VOC-free
125	polyglycoether	100 %	none, VOC-free
126	polyglycoether	100 %	none, VOC-free
127	modified polyglycoether	100 %	none, VOC-free
140	polyglycoether	100 %	none, VOC-free
142	modified polyglycoether	60 %	water

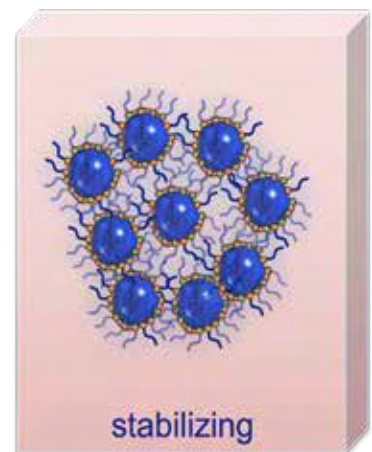
VOC-free according to 2004/42/EC



dispersing / wetting agent

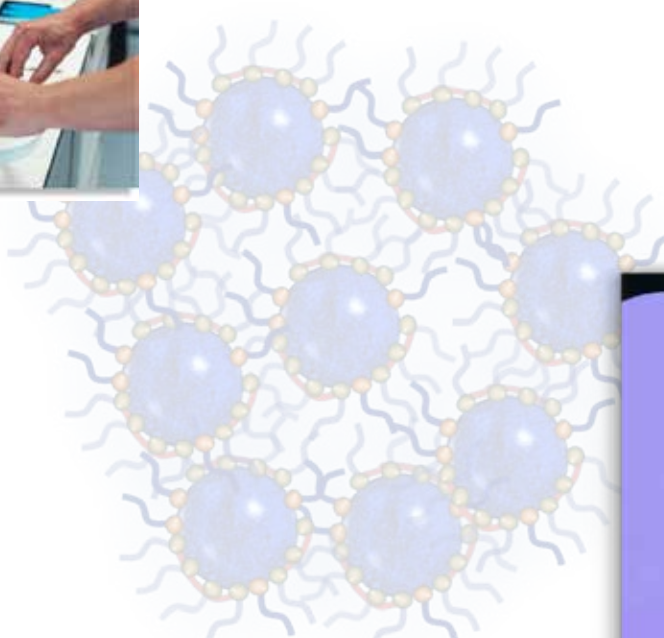


dispersant





Function			Main Application			Special Feature	CLIQSPERSE®
Compatibility agent	Wetting agent	Dispersing agent	Coatings / Paints	Pigment concentrates	Base paints		
+	+++	+	+	+++	+	pigment wetting agent; improves colour strength and reduces viscosity in waterborne concentrates	123
++	+++		+++	++	+++	labelling-free economic wetting agent and compatibilizer for coatings and pigment concentrates	124
++	+++	++	+++	++	+++	wetting agent with stabilising properties for industrial coatings	125
+++	+++	+	++	+++	++	environmentally friendly, labelling-free multi purpose wetting agent for universal colorants	126
+	+++	+	+++	+	+++	environmentally friendly, labelling-free dynamic wetting agent, low foam formation	127
	+++		++	+++		excellent wetting agent for effect pigments and high gloss industrial/decorative coatings	140
	++	+++		+++	+	particularly recommended for all pigment concentrates for inks and for carbon blacks	142





CLIQSPERSE® wetting and dispersing agents for aqueous systems

CLIQSPERSE®	Product Chemistry	Active Content	Solvents / Diluents
128	polymeric carboxylate	25 %	water
130	polymeric carboxylate	20 %	water, VOC-free
132	fatty acid modified polyester	100 %	none, VOC-free
133	fatty acid modified polyester	100 %	none, VOC-free
135	neutralised phosphate ester	100 %	none, VOC-free
149	polymeric dispersant	100 %	none, VOC-free
150	polymeric dispersant	40 %	water, VOC-free
151	polymeric dispersant	40 %	water, VOC-free
152	polymeric / surfactant blend	38 %	water
153	polymeric dispersant	100 %	none, VOC-free
162	anionic surfactant	60 %	propylene glycol
172	sodium polycarboxylate	45 %	water, VOC-free
176	ammonium polycarboxylate	40 %	water, VOC-free
180	polymeric dispersant	35 %	water

VOC-free according to 2004/42/EC



Function			Main Application			Special Feature	CLIQSPERSE®
Compatibility agent	Wetting agent	Dispersing agent	Coatings / Paints	Pigment concentrates	Base paints		
	+	+++	+++	+++	++	excellent resin compatibility, general industrial coating	128
	+	+++	+++	+++	++	excellent resin compatibility, decorative coatings	130
+	++	+++		+++	+	performs as universal dispersant in pigment concentrates for decorative coatings	132
+	++	+++		+++	+	for universal colorants to improve compatibility; for all pigment types	133
+	++	+++	+	+++	+	for decorative aqueous and universal pigment concentrates; excellent for inorganic pigments	135
	++	+++	+	+++		particularly recommended for organic pigments and high jetness black	149
		+++	++	+++	+++	universal for all pigments used in decorative and industrial coatings and pigment concentrates	150
		+++	++	+++	++	dispersant for all pigments; low concentrate viscosities at high loading	151
+	+++	+++	+++	+++	++	for resin free pigment concentrates; excellent for high performing wood and industrial coatings	152
		+++	++	+++	++	universal for all pigments; used in decorative coatings and pigment concentrates	153
+++	+++			++	+++	highly efficient compatibilizer specifically for non-aqueous alkyd paints	162
		++	+++		++	highly efficient for inorganic pigments and fillers; odourless	172
		++	+++		++	highly efficient for inorganic pigments and fillers	176
+	+++	+++	+++	+++	+++	for all pigments; excellent for high performing wood and industrial coatings/pigment concentrates	180



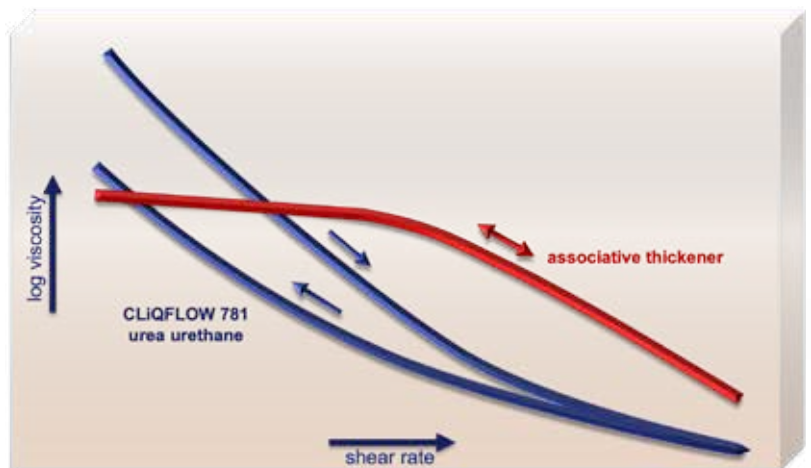
CLiQFLOW® rheological additives for aqueous systems

CLiQFLOW®	Product Chemistry	Active Content	VOC-free
601	beneficiated and activated smectite clay	100 % powder	yes
602	organically modified smectite clay	100 % powder	yes
603	organically modified smectite clay	100 % powder	yes
615	highly activated smectite clay	100 % powder	yes
535	hydrophobically modified alkali swellable emulsion	30 % liquid	yes
538	hydrophobically modified alkali swellable emulsion	30 % liquid	yes
541	acrylic inverse emulsion thickener	40 % liquid	no
781	urea urethane	40 % liquid	no

VOC-free according to 2004/42/EC

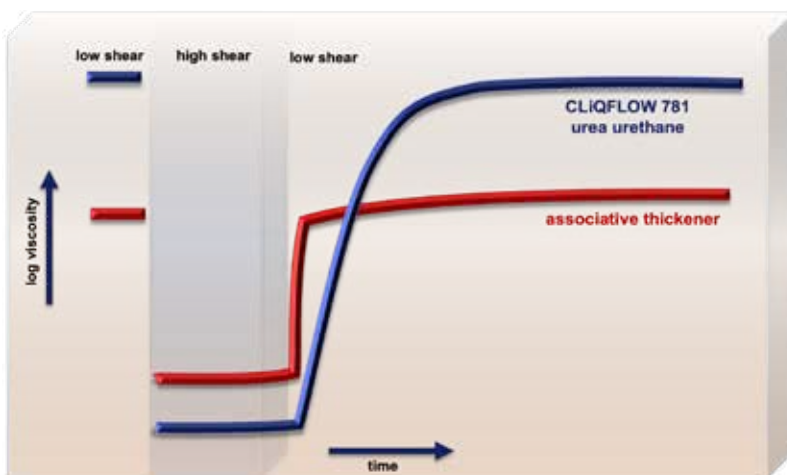


reference





Viscosity Development			Special Features	CLIQFLOW®
Low Shear	Mid Shear	High Shear		
++	+	o	mineral based construction systems, high pvc emulsion paints	601
+++	++	o	epoxy coatings, emulsion paints, construction systems	602
+++	++	+	emulsion and silicate paints, industrial coatings; provides a strongly shear thinning flow with excellent sag resistance and storage stability	603
+++	+	o	high value decorative and industrial systems; provides a clear gel, excellent for clear coat	615
++	++	+	provides a balanced sag and levelling performance with good storage stability; reduces spattering during roller application	535
o	+	+++	highly efficient in high shear thickening; improves brush drag and reduces spattering during roller application	538
++	+	o	provides strongly shear thinning flow behaviour; does not require neutralisation and ca be added at any production step	541
+++	+	o	provides structure and storage stability with a strongly thixotropic flow; excellent for industrial spray applied and dip coatings	781

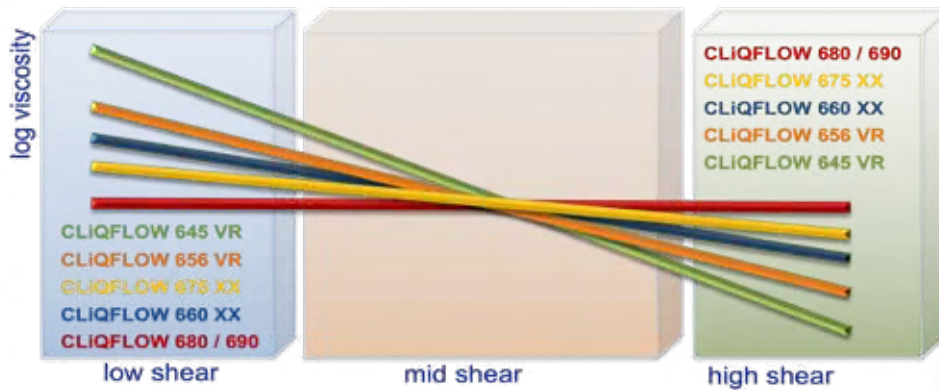


+ CLIQFLOW 781

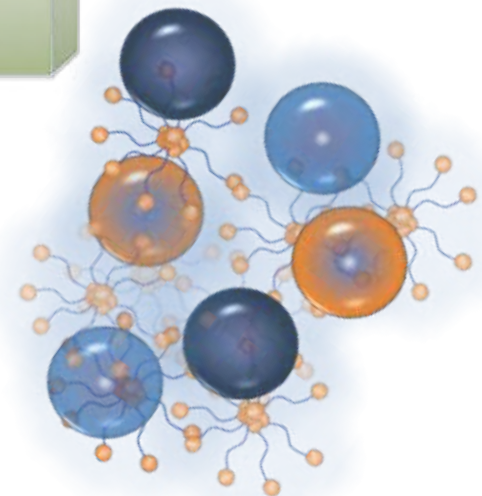


CLiQFLOW® rheological additives for aqueous systems

CLiQFLOW®	Product Chemistry	Active Content	VOC-free
645 VR	non-ionic polyurethane associative thickener	25 % liquid	yes*
656 VR	non-ionic polyurethane associative thickener	20 % liquid	yes*
660 VR 660 VF-3	non-ionic polyurethane associative thickener	25 % liquid 20 % liquid	yes* yes
661 VR	non-ionic polyurethane associative thickener	40% liquid	yes*
675 675 VR 675 VF	non-ionic polyurethane associative thickener	25 % liquid	no yes* yes
680	non-ionic polyurethane associative thickener	20 % liquid	yes
690	non-ionic polyurethane associative thickener	20 % liquid	yes
681	non-ionic polyurethane associative thickener	40 % liquid	yes



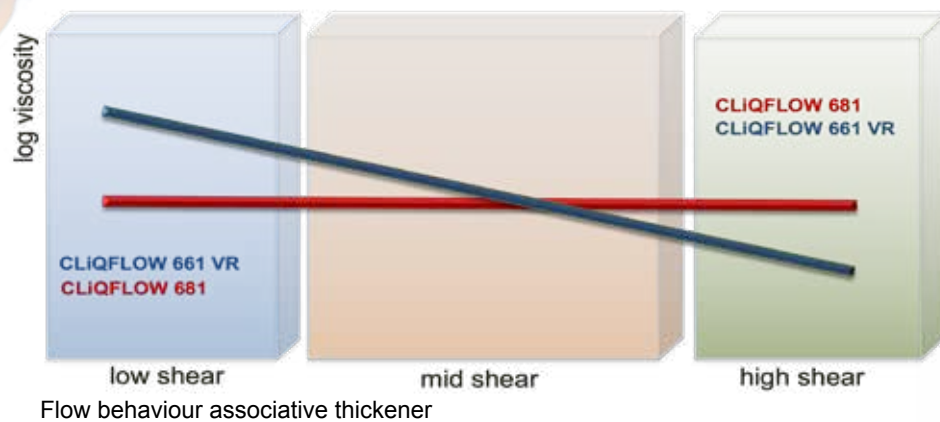
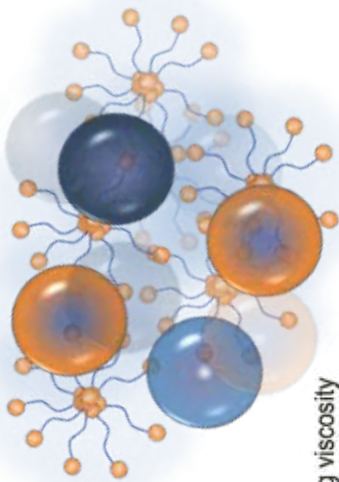
Flow behaviour associative thickener



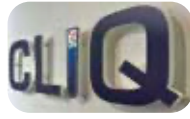


Viscosity Development			Special Features	CLiQFLOW®
Low Shear	Mid Shear	High Shear		
+++	+	o	provides extremely high low shear viscosity; excellent for spray applied and dip coatings	645 VR
+++	++	o	low shear thickener with mid shear contribution; for industrial and decorative coatings	656 VR
++	++	+	low and mid-shear thickener for decorative and industrial systems; also available in higher concentrations (CLiQFLOW 660 VR)	660 VR 660 VF-3
++	++	+	excellent for pigment concentrates and industrial coatings; excellent for PUD's	661 VR
+	+++	++	balanced thickener for decorative and industrial coatings; also available in higher concentrations (CLiQFLOW 675 and 675 VR)	675 675 VR 675 VF
o	+	+++	Newtonian flow, to improve brush drag; reduces spattering during roller application	680
o	+	+++	highly efficient Newtonian thickener; improves brush drag and reduces spattering during roller application	690
o	++	++	excellent for pigment concentrates and industrial coatings; recommended for blade, roller and brush application	681

VOC-free according to 2004/42/EC; * = < 1 g/l VOC according to 2004/42/EC



Flow behaviour associative thickener



CLiQSMART® defoamer for aqueous systems

CLiQSMART®	Product Chemistry / Active Content	Active Content	Incorporation Requirements
111	VOC-free polymeric, mineral oil-free and silicone-free	100 %	medium shear
1031	VOC-free polyglycol	100 %	medium shear
1032	VOC-free* polyglycol emulsion	49 %	low shear
1051	polysiloxane emulsion	20 %	low shear
1052	polysiloxane emulsion	11 %	medium shear
1061	modified polysiloxane	100 %	high shear
1063	polysiloxane emulsion	20 %	medium shear

CLiQSMART® special additives for aqueous systems

CLiQSMART®	Product Chemistry	Active Content	Activation Requirements
129	urethane based humectant; VOC-free	75 % liquid	low shear
129-30	modified urethane based humectant; VOC-free	90 % liquid	low shear
HM-1	modified polymeric based humectant; VOC-free	100 % liquid	low shear
FS-1	formaldehyde scavenger, VOC-free	90 % liquid	low shear
N-1	amine based neutraliser	90 % liquid	low shear
RI-1	nitrite free corrosion inhibitor	50 % liquid	low shear

VOC-free according to 2004/42/EC



Application Field					Main Application / Remarks	CLIQSMART®	
Clear systems	Pigmented systems	Gloss systems	Silk gloss systems	Matt systems			
	+++		++	+++	emulsion paints, plasters and adhesives	111	
	+++		+++	++	mineral oil- and silicone-free for mid-to-high pvc emulsion paints, adhesives and inks	1031	
+	++	+	+++	++	emulsion paints and adhesives	1032	
++	+++	++	+++		gloss clear and pigmented systems	1051	
	+++	+	++	+++	economic grade for pigmented low-to-gloss systems	1052	
+	+++	+	+	+++	excellent for industrial coatings, requires high shear incorporation	1061	
++	+++	++	+++	+++	excellent for industrial coatings, good system compatibility with high efficiency	1063	

Performance Benefits	Main Application / Remarks	CLIQSMART®	
prevents drying-out of highly concentrated pigment pastes; glycol replacement	pigment concentrates for in-shop-tinting; can also be applied in in-plant-tinting systems	129	
prevents drying-out of highly concentrated pigment pastes; glycol replacement	pigment concentrates for in-shop-tinting; can also be applied in in-plant-tinting systems	129-30	
prevents drying-out of highly concentrated pigment pastes; glycol replacement	pigment concentrates for in-shop and in-plant-tinting systems; provides wetting properties	HM-1	
significantly reduces formaldehyde emission from substrates and actively purifies indoor air	industrial and decorative waterborne paints and coatings, particularly wall-paints	FS-1	
wetting agent for inorganic pigments and fillers, neutralising agent	industrial and decorative coatings, extender slurries and inorganic concentrates to improve stability	N-1	
liquid corrosion inhibitor for in-can and flash-rust inhibition	industrial and decorative coatings, direct-to-metal aqueous protective coatings	RI-1	



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