



Where needs take us

Additives for the Paint Industry

Dr. Lucas Zimmermann – Product Manager Paint&Coatings

11/2016

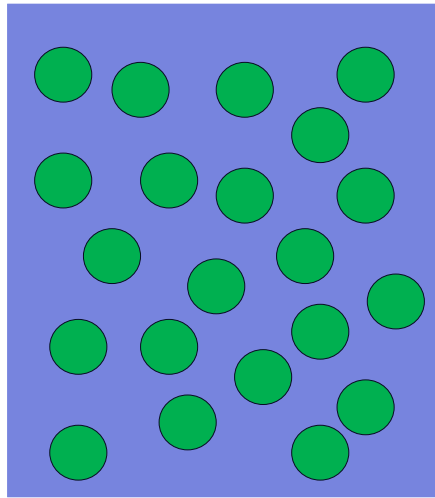


Waterborne Systems

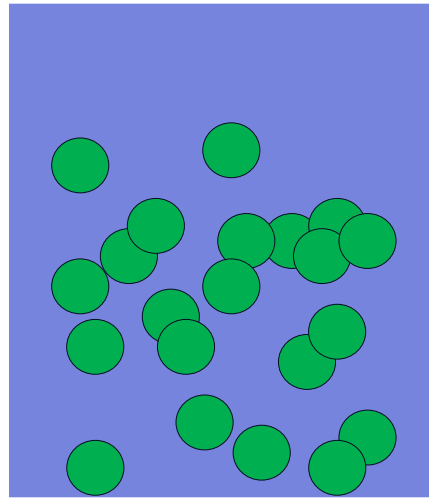
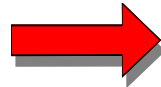
- Interior latex paints
- Exterior latex paints/plasters
- Latex Varnishes
- Silicone resin paints/plasters
- Latex silicate paints/plasters (mineral)

The background features several thick, curved lines in various colors including red, green, purple, orange, teal, and brown, sweeping across the frame. A solid dark blue horizontal band is positioned in the center, serving as a backdrop for the text.

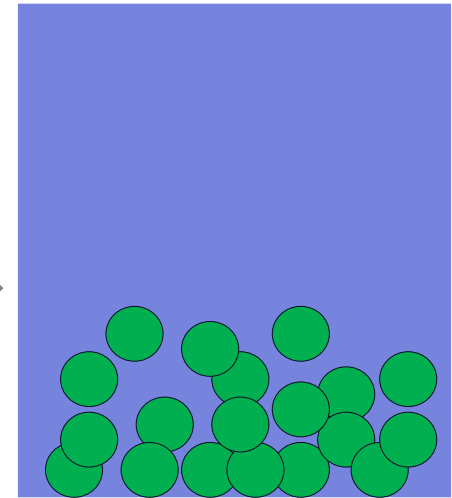
Polyron N – Inorganic Dispersants



1. Particles in water

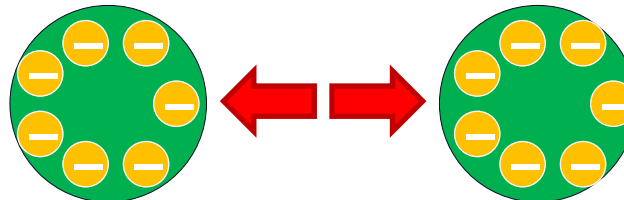


2. Agglomeration



3. Sedimentation

Addition of Polyrion N

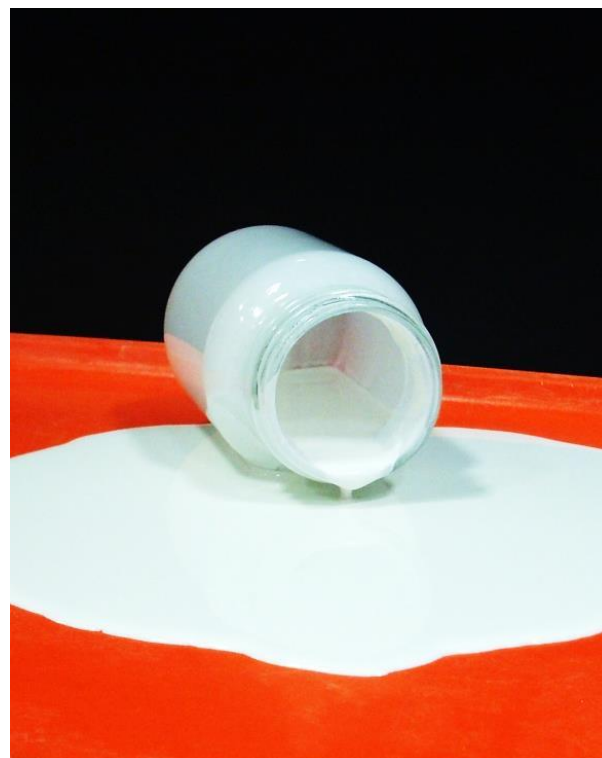


electrostatic stabilization

Dispersing Effect

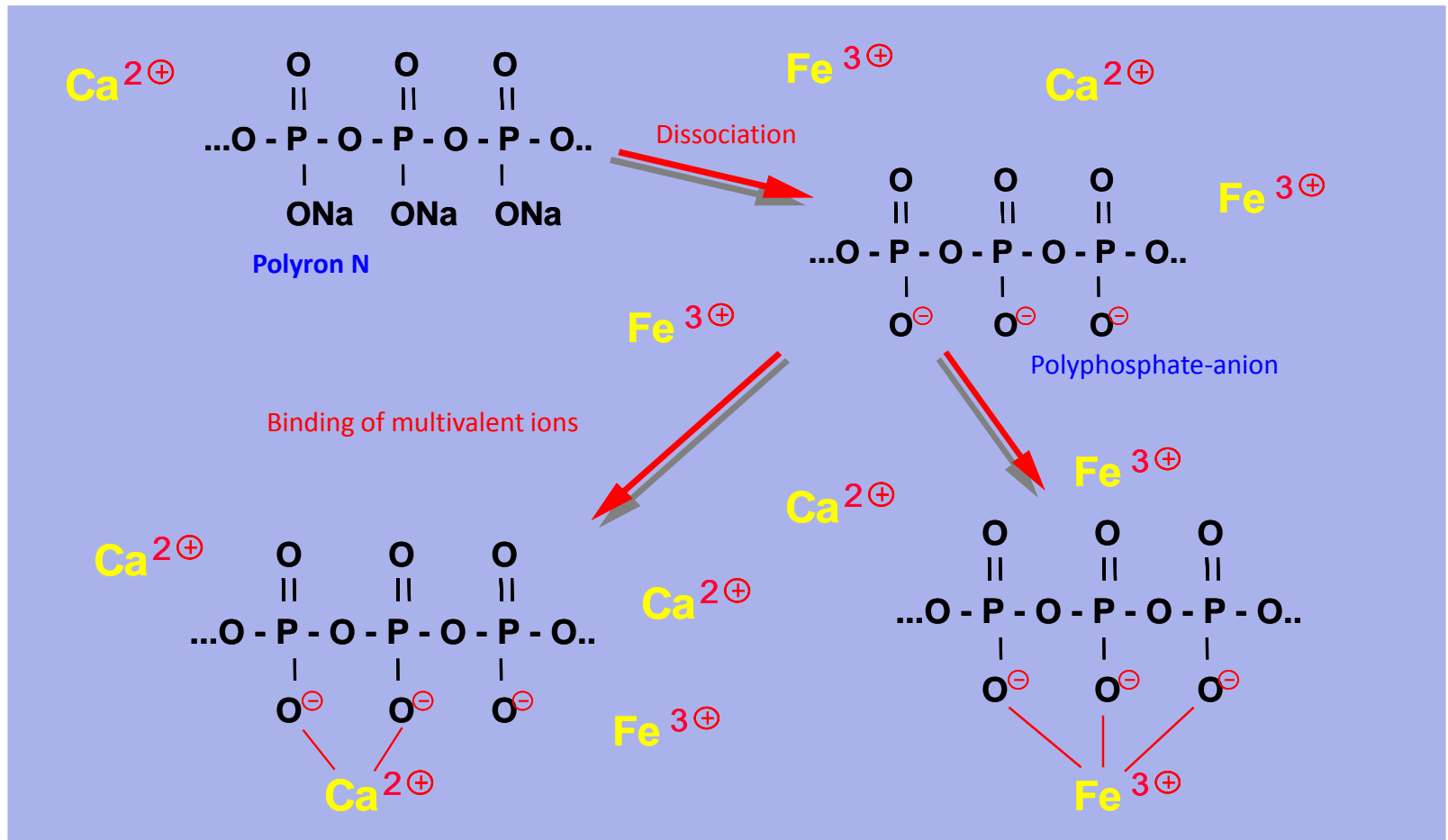


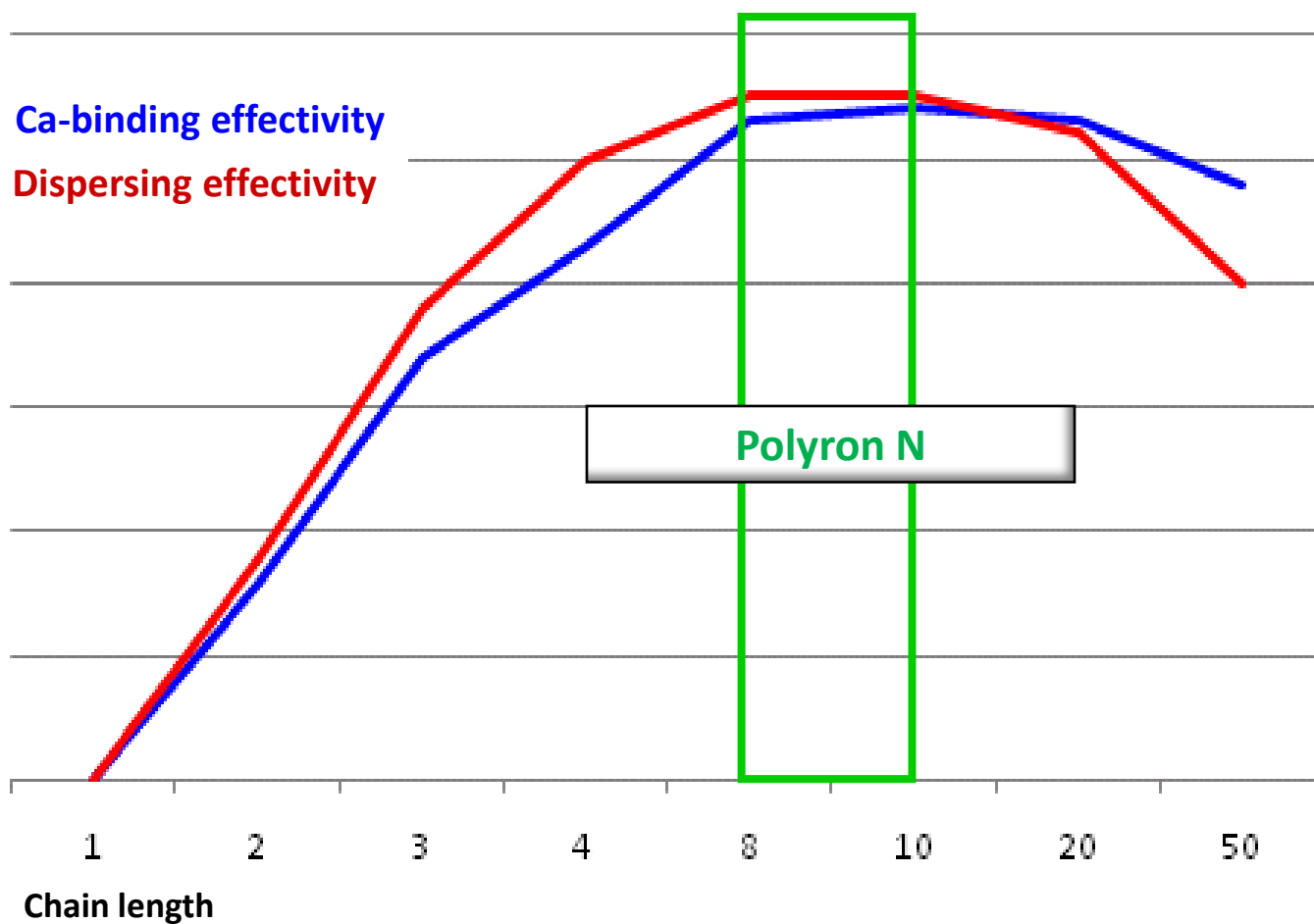
70% TiO₂ and 30% water



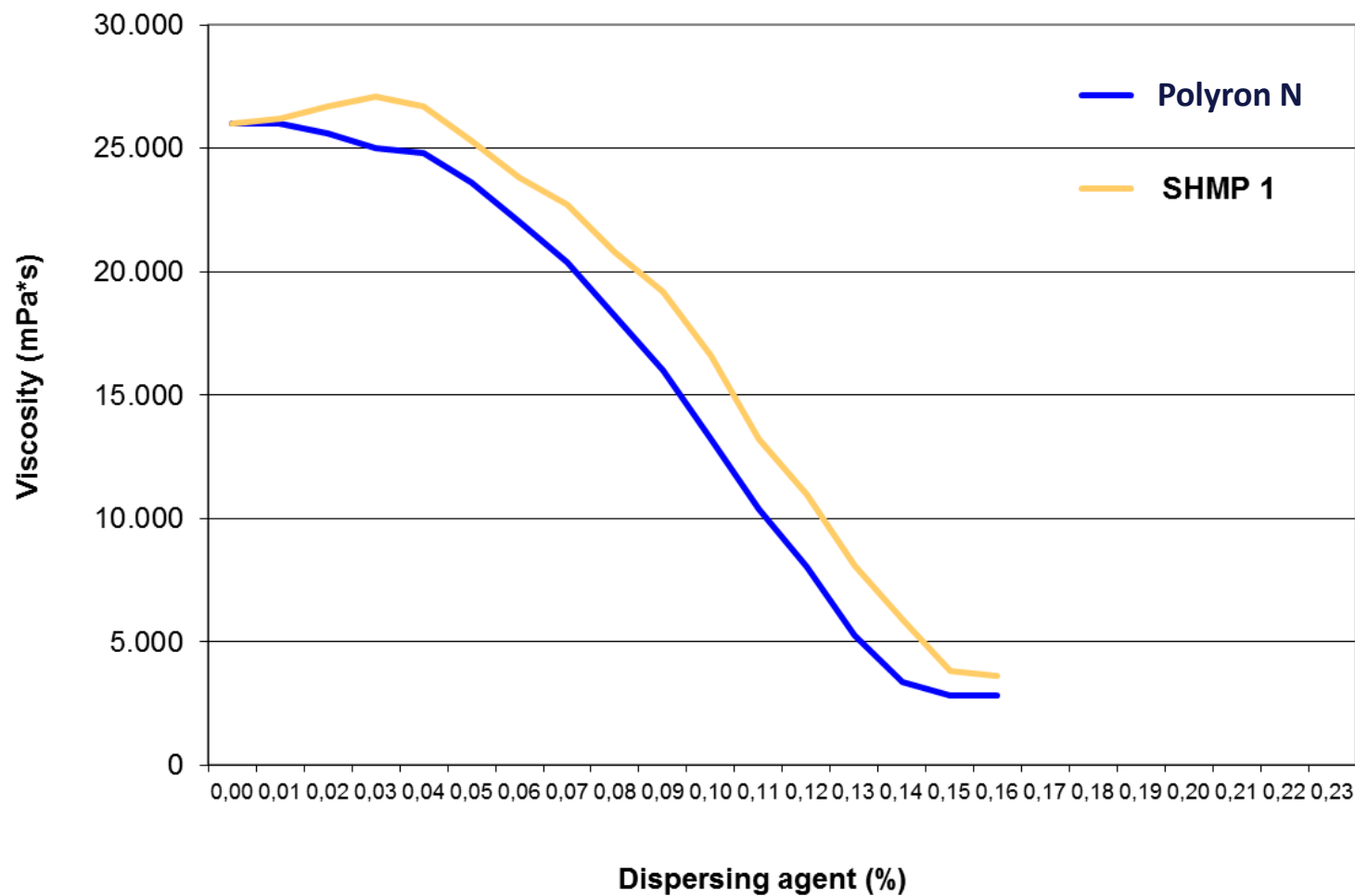
**70% TiO₂ and 30% water
+ 0.1% Polyron N**

Water-softening with Polyrion N

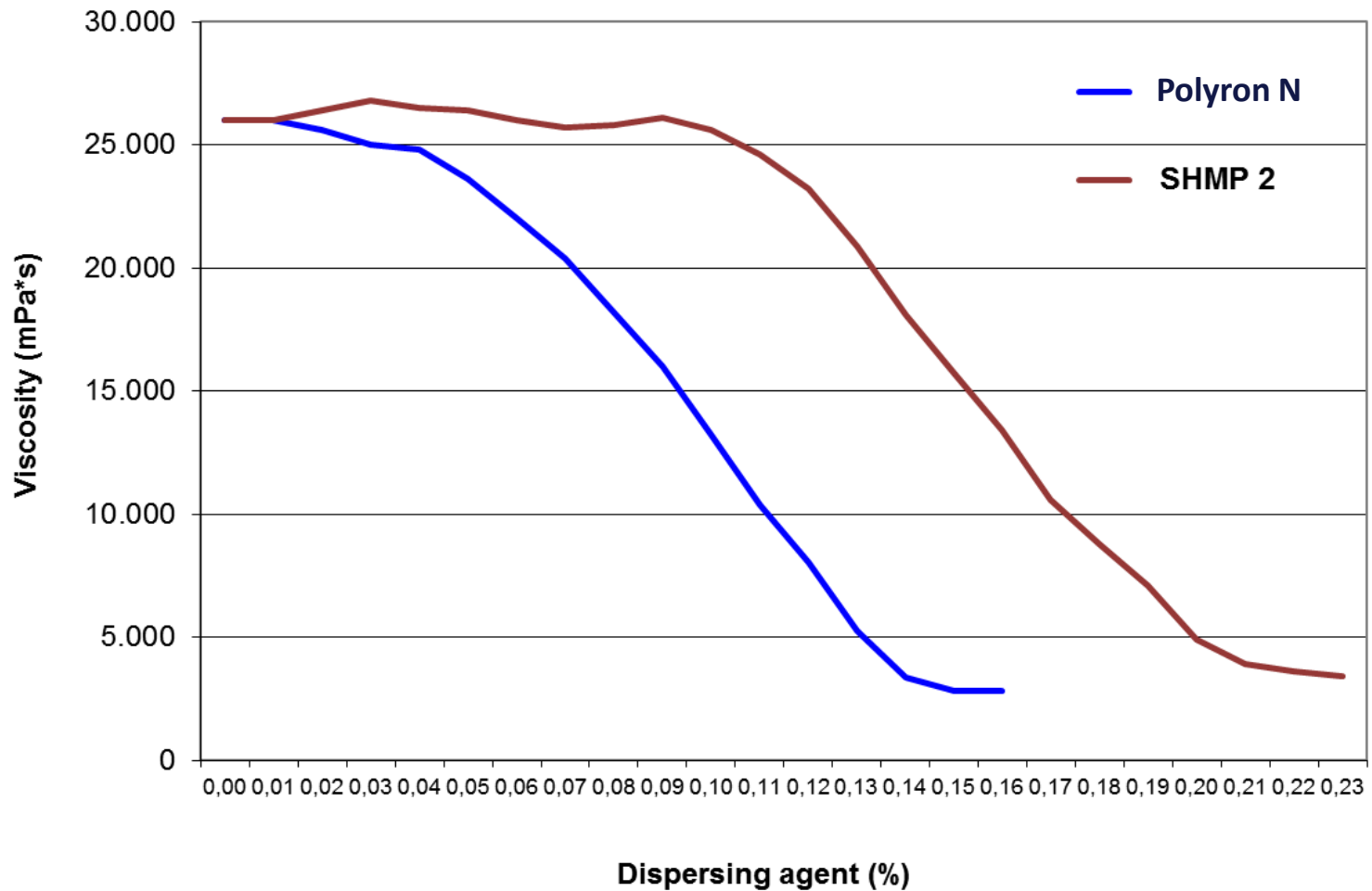


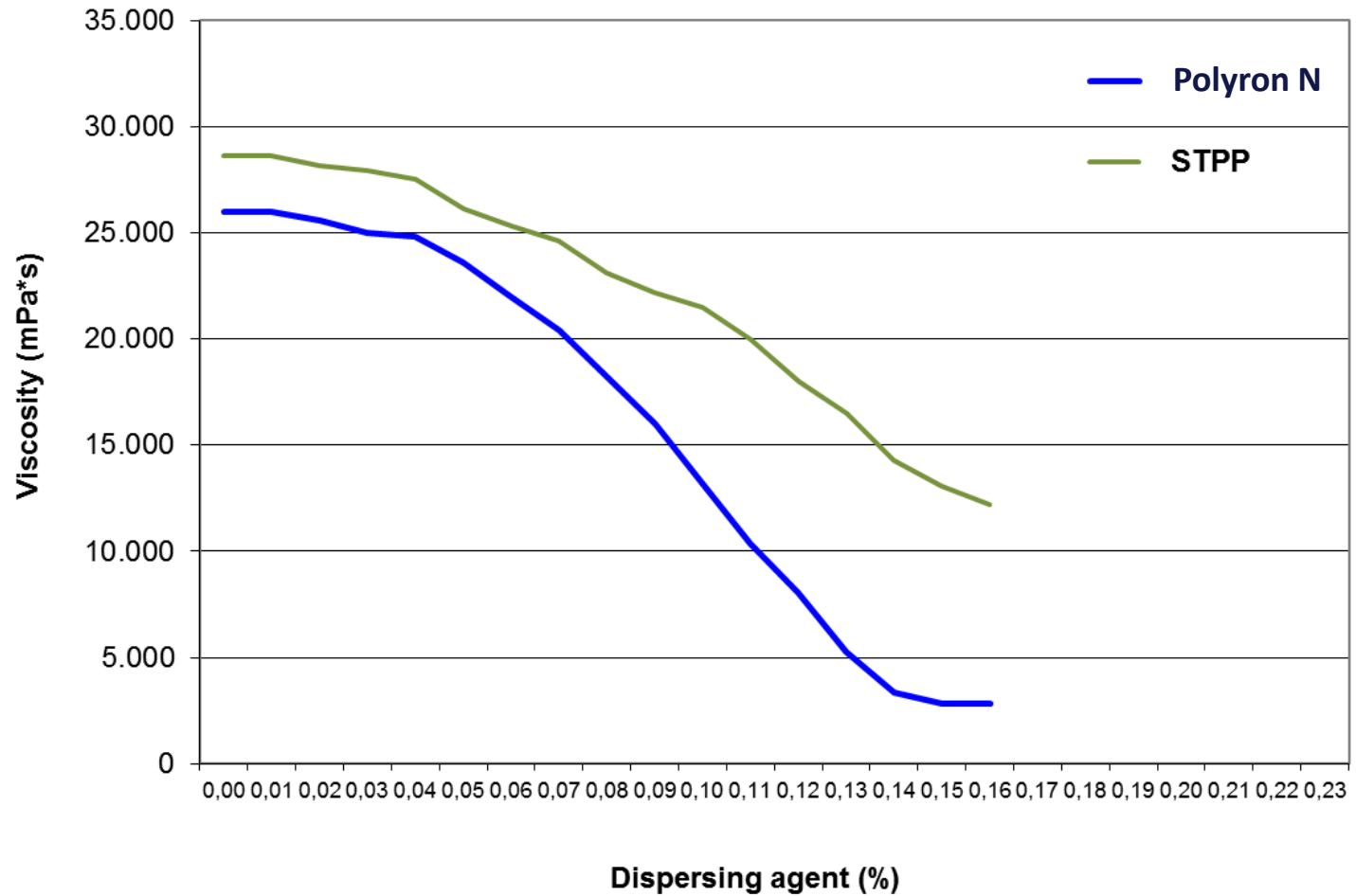


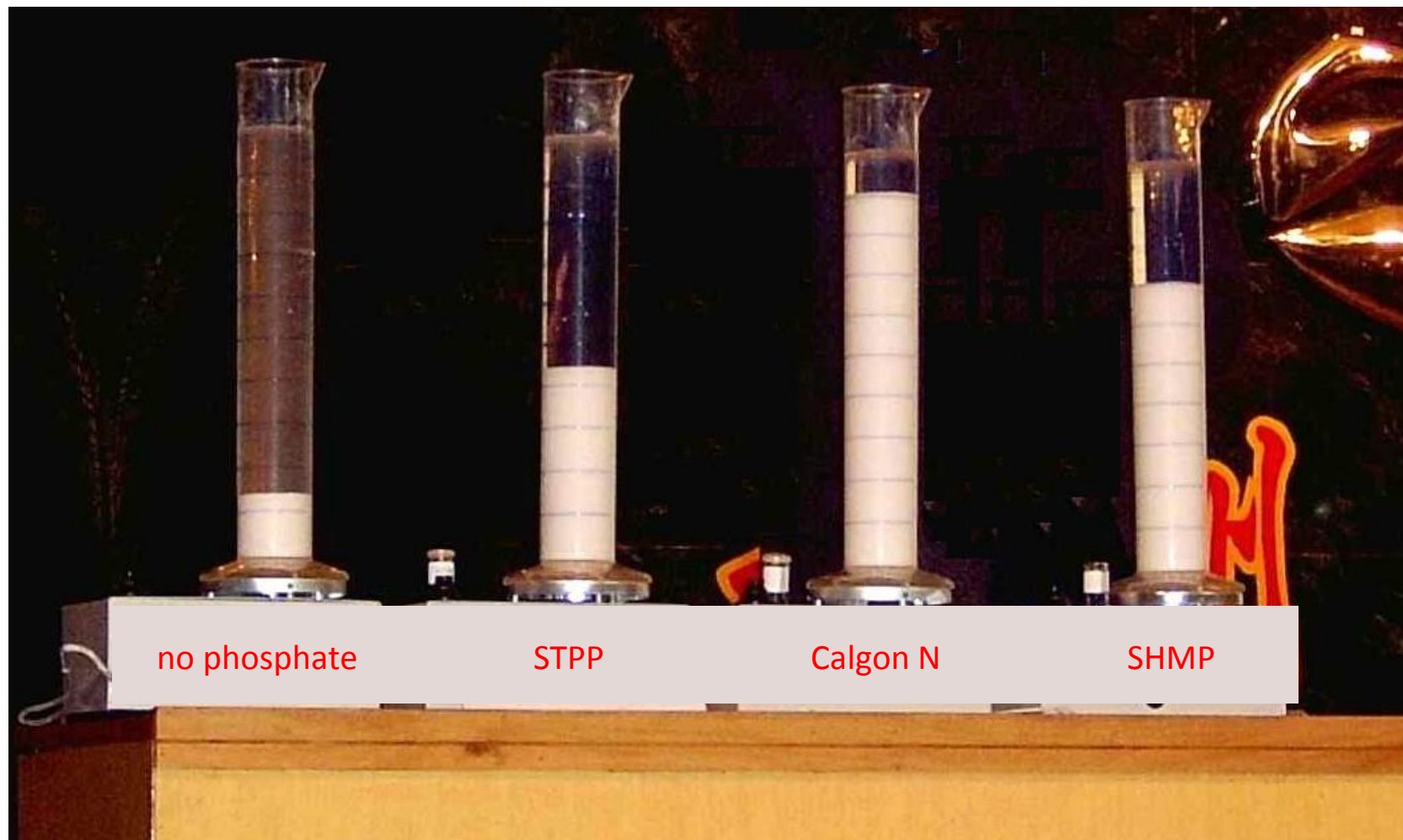
Comparison with SHMP – 1



Comparison with SHMP – 2





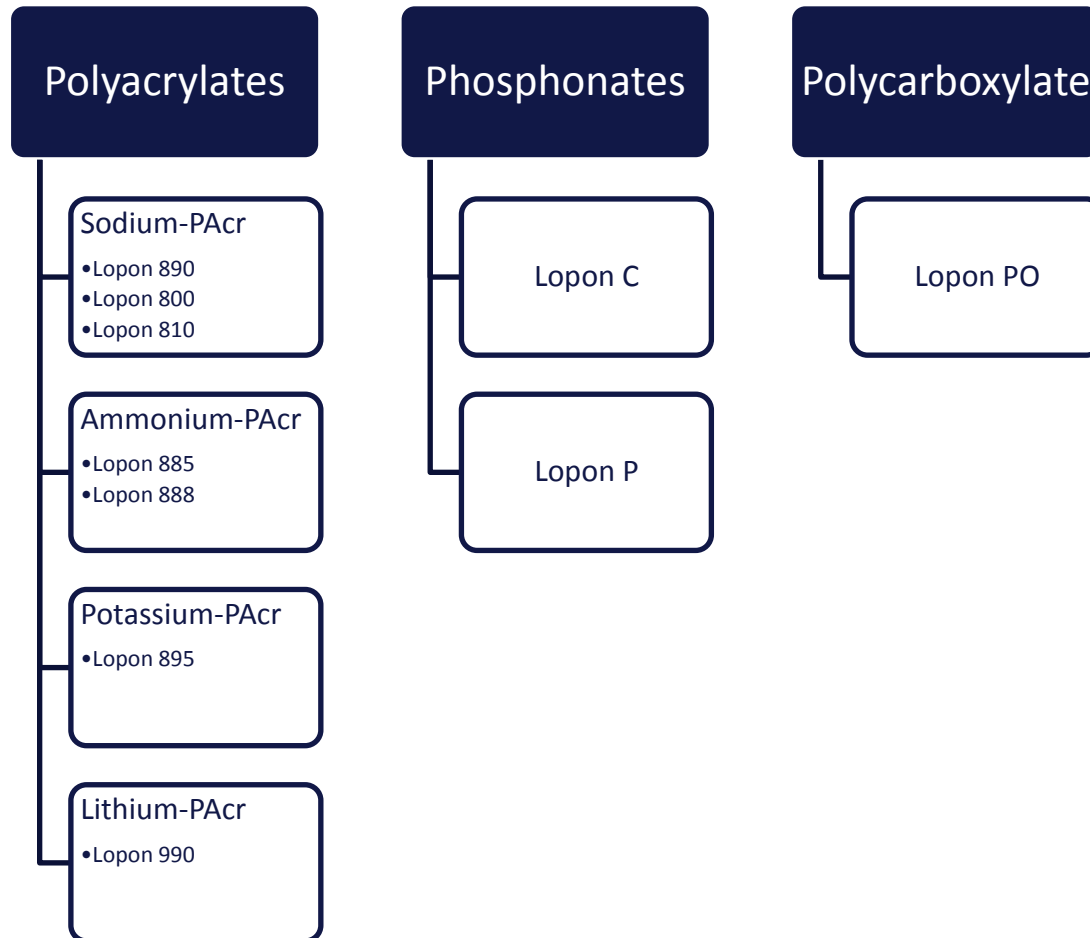


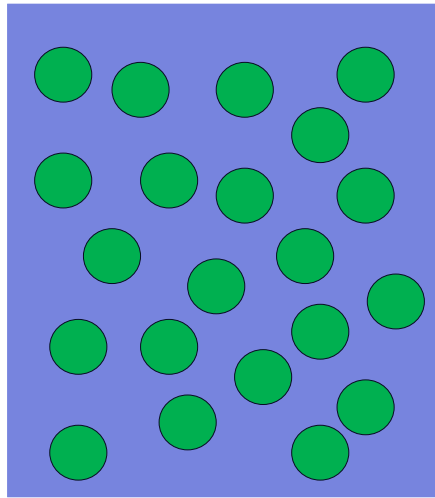
- Very good dispersing and stabilization of pigments
- Optimized chain-length - stable dispersing effectivity
- Ensures fast achievement of optimal particle size during the milling step
- VOC-free
- Foam-free
- Additional stabilization of latex in highly filled systems
- Water-softening -> higher storage stability

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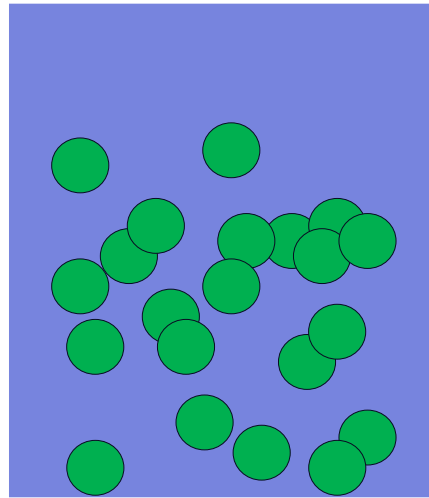
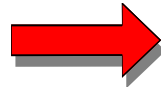
Lopon – Organic Dispersant

Lopon dispersing products

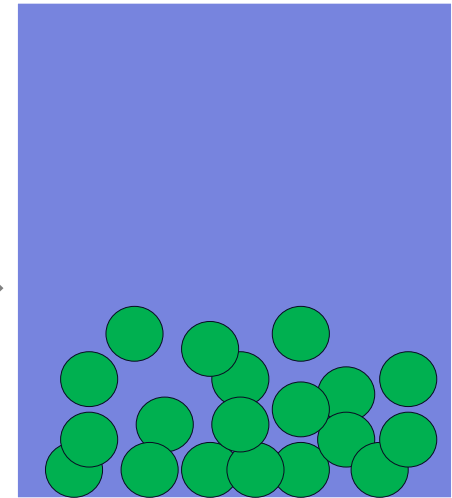




1. Particles in water

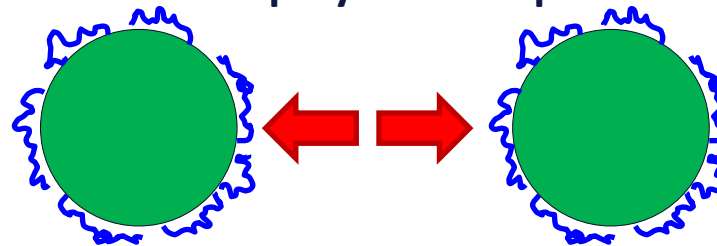


2. Agglomeration



3. Sedimentation

Addition of polymeric dispersants

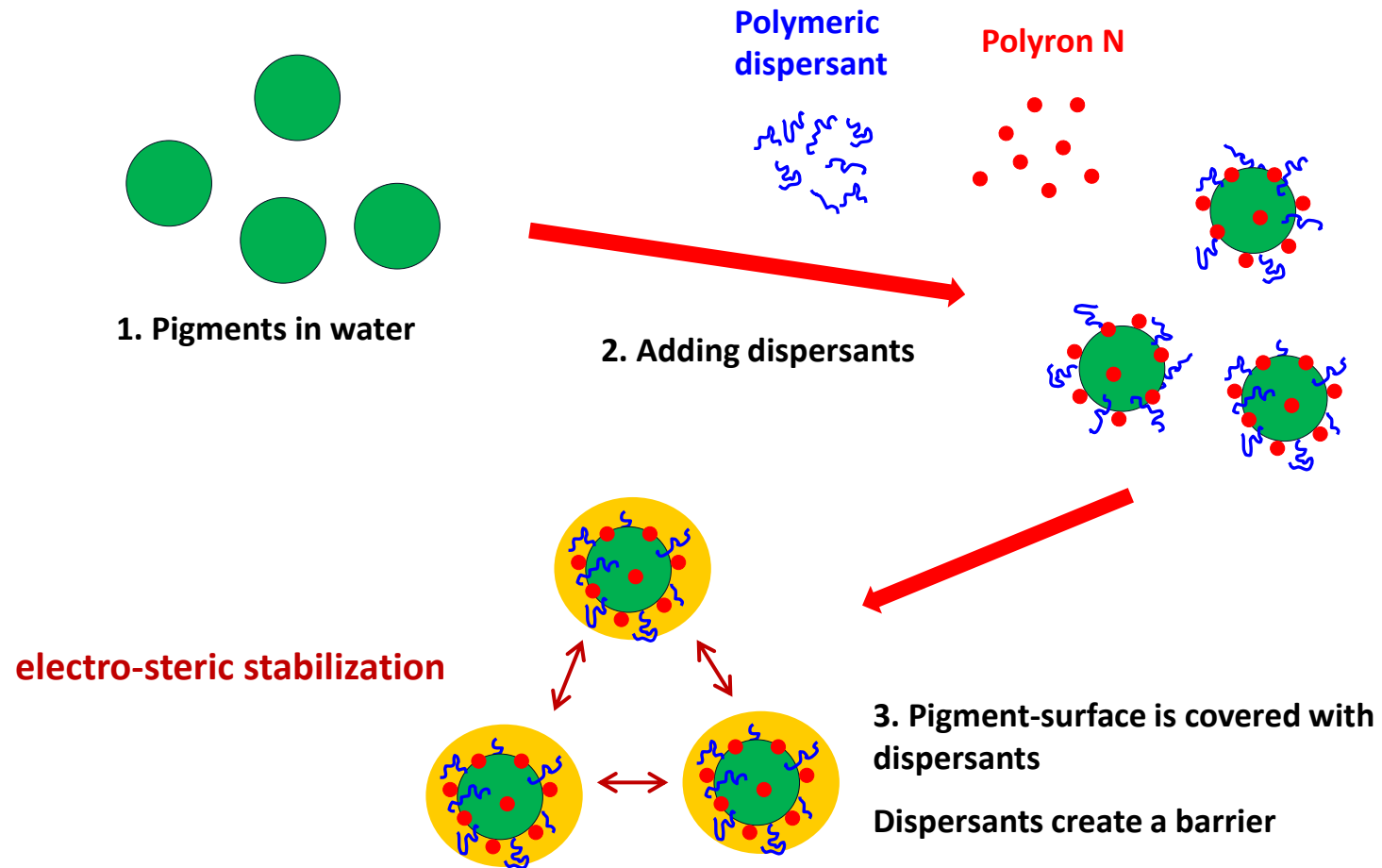


steric stabilization

Recommended for	Lopon 800	Lopon 810	Lopon 890
Interior Paints	+	+	+
Exterior paints	+	+	+
Varnishes	+	(-)	+
Plasters	+	+	+
Silicone resin paints	+	+	+
latex-silicate paints	+	+	+

Application	Inorganic dispersant	Polymeric dispersant
Interior paint	0.05 – 0.1% Polyron N -	0.15 – 0.3% Lopon 800, 810, 890 0.25 – 0.35% Lopon 800, 810, 890
Exterior paint	0.05 – 0.1% Polyron N -	0.25 – 0.35% Lopon 800, 810, 890 0.25 – 0.5% Lopon 885, 888, 895
Latex varnish	-	0.5 – 1.0% Lopon PO
Latex silicate paint	-	0.25 – 0.35% Lopon 895

Percentages given for total amount



Chemistry: Phosphonate

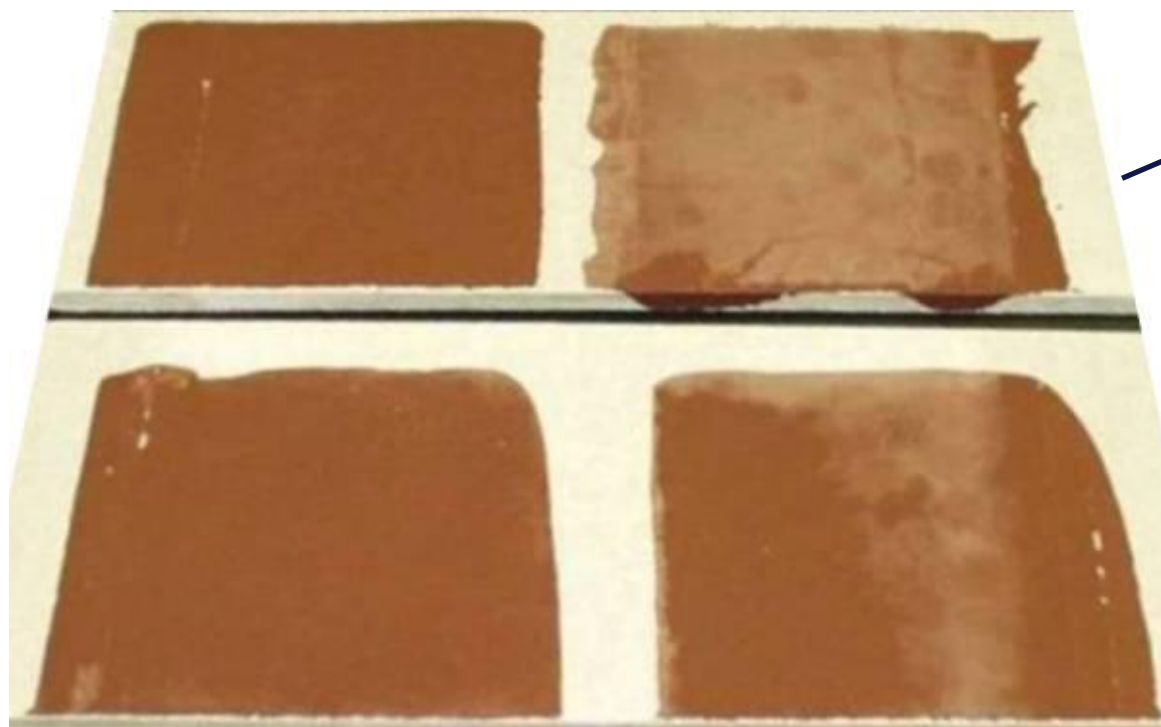
Advantages:

- High calcium binding properties
- Good pigment wetting
- Good colour stabilization
- Good leveling

Recommended for :

- ✓ Interior paints
- ✓ Exterior paints
- ✓ Varnishes
- ✓ Plasters
- ✓ Silicone Resin Paint
- ✓ Pigment Slurries

Lime blocking of Loapon P/C



Fibre cement board

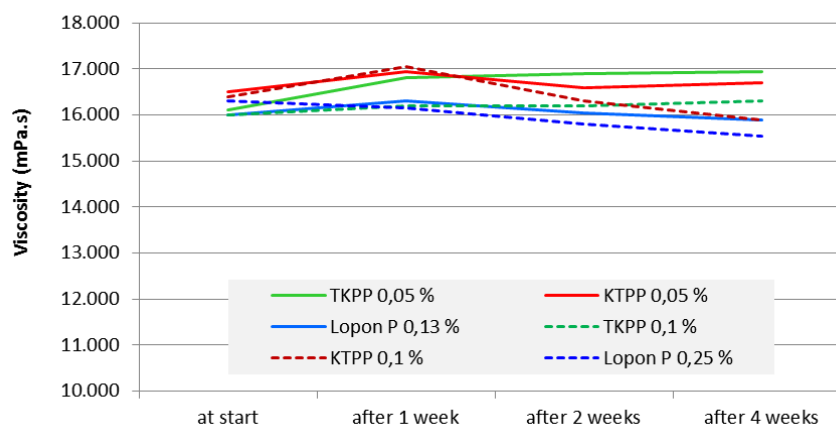
0,3 % Loapon 890 + 0,4 % Loapon P

0,7 % Loapon 890

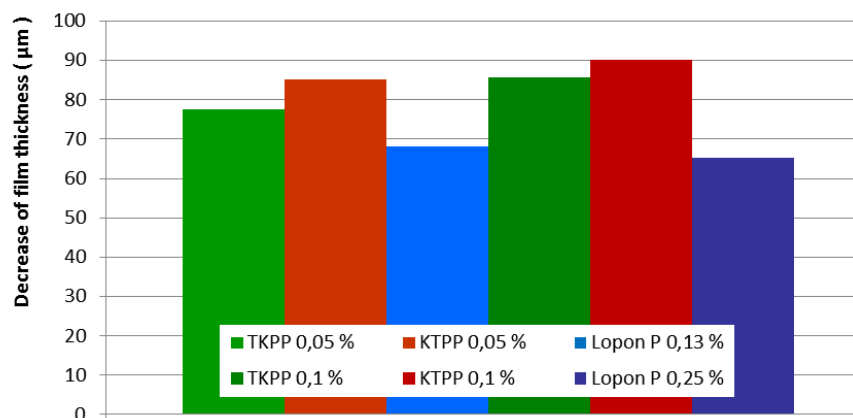
Formulation of an Interior Wall Paint (PVC 80)

Raw materials	parts per weight
Water	200,0
HEC	2,5
NaOH (10%)	1,0
Defoamer	0,5
Lapon 800	1,5
Phosphate dispersing agent	0,5
Precipitated Ca CO ₃	50,0
Natural Ca CO ₃ (2 µm)	220,0
Natural Ca CO ₃ (10 µm)	220,0
Talc	50,0
Titaniumdioxide	60,0
Water	85,0
Styrene-Acrylic Emulsion	100,0
Biocide	2,0
Defoamer	1,0
Thickener	6,0
	1000,0

Storage Stability at 50 °C / 122 °F



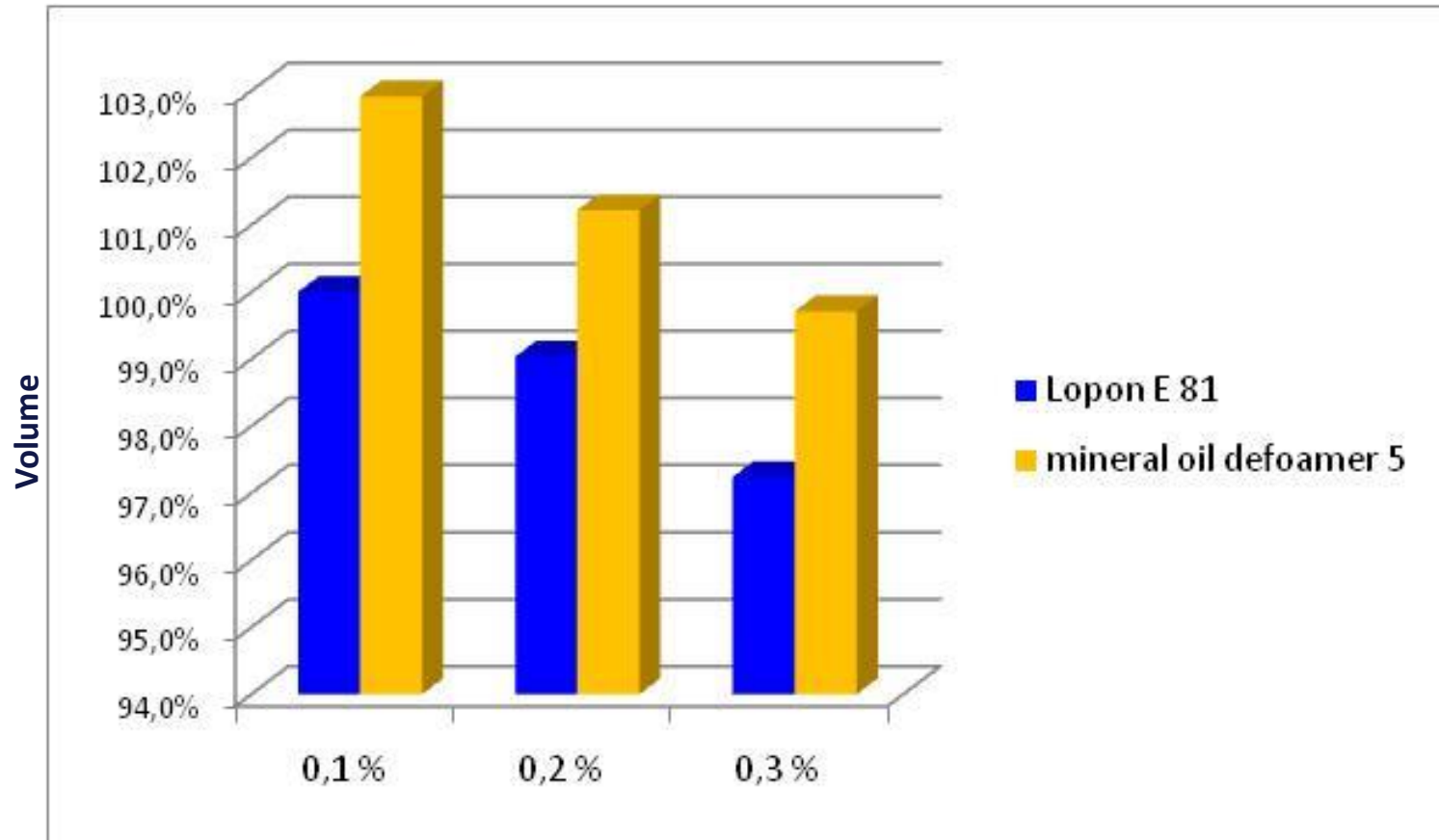
Scrub Resistance



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Lopon E – Defoamers

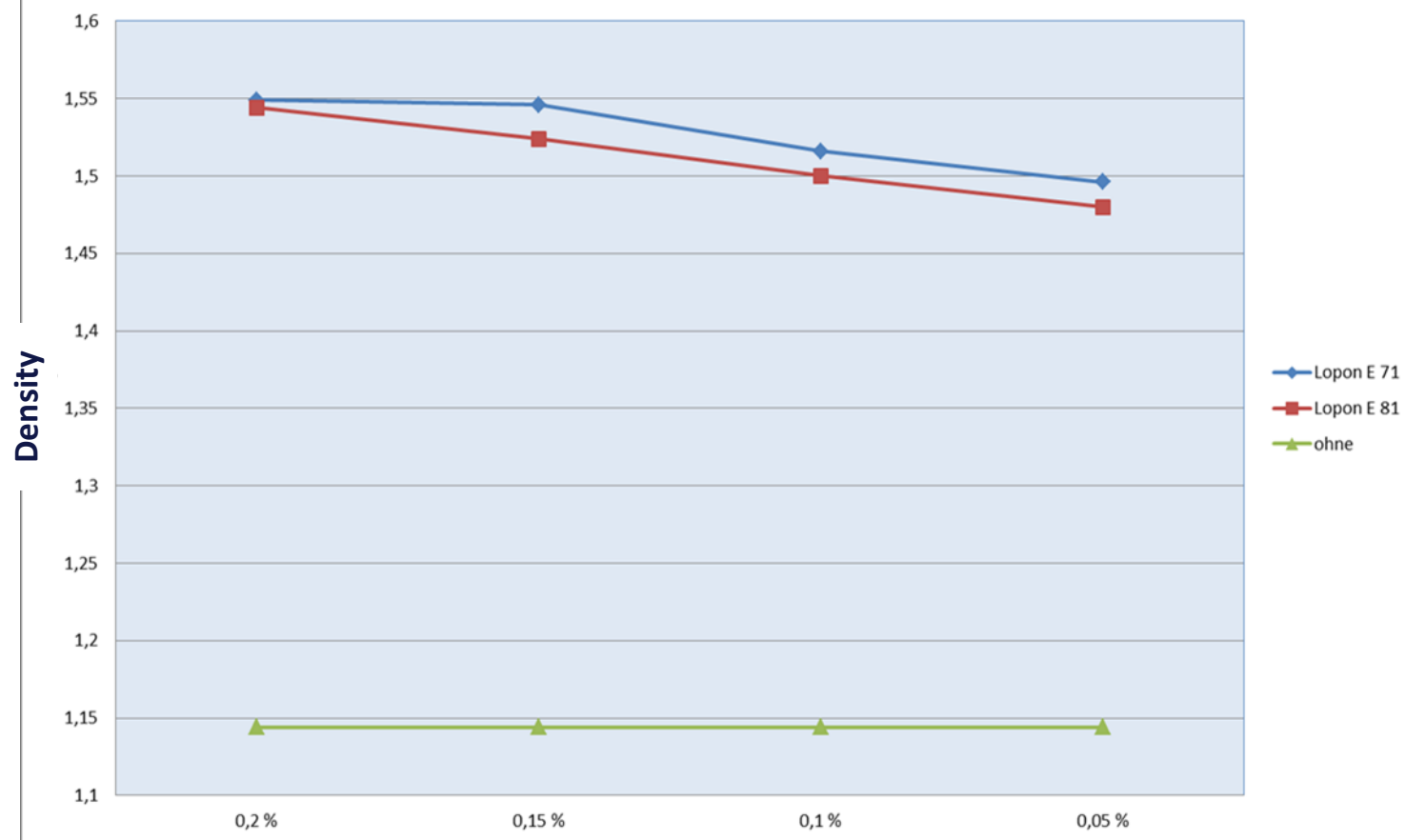
Recommended for	Lopon E 13	Lopon E 81	Lopon E 71
Flat paints	+	+	+
Glossy paints	-	(-)	+
Laquers	-	(-)	+
Primers	+	-	+



With a dosage of only 0.1 % Lopon E 81 the same defoaming effects could be reached as with 0.3 % of a commonly used mineral oil defoamer.

- high defoaming efficiency
- low dosage (0.1 – 0.3 %)
- mineral oil – free
- based on regrowing raw materials
- silicone – free
- shelf-life > 1 year
- low VOC value

Comparison Lapon E 71 vs. Lapon E 81



- high defoaming efficiency
- low dosage (0,1 – 0,2 %)
- applicable for glossy paints
- silicone – free
- shelf-life > 1 year
- low VOC value

The background features several thick, curved lines in various colors including red, green, purple, orange, teal, and brown, set against a light gray background with fine diagonal lines. A solid dark blue horizontal band spans the width of the image, serving as a backdrop for the title text.

Biocide replacement

- Longterm stable formulations at high alkaline ph-value between 11,0 and 11,5
- Helps to minimize or eliminate the usage of preservatives.
- To prevent the increase of viscosity LOPON[®] PHB contains a stabilizer compound which buffers the organic silicate system.
- In combination with LOPON[®] PHB we recommend to use alkaline stable emulsions.

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**Thank you for your
attention!**