

## Water Based Emulsions





## About us

- Egyptian company with nearly \$100 million in sales and overall production capacity of about 200,000 MT/ Year
- Resin portfolio that comprises of more than 80% of water borne products
- Broad technology portfolio: Specialty Chemicals and Auxiliaries
- Approx. 700 employees
- More than 1200 customers
- 5 manufacturing facilities
- 8 research and technology centers
- Several solutions for key coating segments: automotive, Industrial, packaging coating and inks, paper, ceramic, Detergents and Textiles

**Table of Content**

**1**

**Production Facilities**

**2**

**Nomenclature and Trade Names**

**3**

**Acromul®**

A Brand You Can Depend On

**4**

**Supstro®**

High Standards, No Limits

**6**

**Sundro®**

Satisfying Your Extra Needs

**8**

**Sunovad®**

The Adventure You Should Experience

**10**

• **Rheology Modifier**

**10**

• **Dispersing Agents**

**12**

• **Defoamers**

**14**

• **DBM Plasticizer**

**15**

• **Biocide**

**16**

## Production Facilities



With manufacturing, R&D And technical facilities Located throughout Egypt, **Egyptian British Co.** offers global and reliable supply of coating's polymers and additives combined with local, responsive customer support team.

## Nomenclature and Trade Names

Trade Name	Nomenclature	Description
<b>Acromul®</b>	520PG, 505PS 580GS, 570W, 425ES A640, A520	Pure Acrylic Emulsion Styrene - Acrylic Copolymer Vam - Acrylic Copolymer
<b>Supstro®</b>	585V, 540CV, 570V, 560V, 585VE T535, T520, T520E	Vam Veova copolymer Vam - Veova - Acrylic Emulsion (Terpolymer)
<b>Sundro®</b>	4105P, 5100P, 5700P 5100N, 4100N	Plasticized homopolymer Emulsion Non-plasticized homopolymer Emulsion
<b>Sunovad®</b>	340AT 530CA, 530CS, 435HA, 435HS 200SK, 200SFK DBM Q609	Acrylic Thickener Rheology Modifier Dispersing Agent Silicon based and silicon free defoamers Phthalate free plasticizer Biocide



**Acromul®** - Emulsions represent the gold standard Pure Acrylic, Styrene Acrylic And Vam Acrylic emulsions for quality and performance in the field of paints, coatings and constructions, The **Acromul®** line continues to grow to allow you to expand your product offerings and capitalize on the major trends in the industry.

## Product Specifications

Product	S.C.(%)	Viscosity	MFFT	Density	pH	Particle size	Emulsifying system	Field(s) of Applications	Characteristics Enabled by the product
<b>Acromul® 580GS</b>	50±1	6000-12000	16 -18	1.04	7 - 8.5	0.1-0.3	Emulsifier	Multi-Purpose Styrene Acrylic Emulsion for formulators requiring to formulate high quality coatings compliant with the latest market needs	<ul style="list-style-type: none"> <li>• Excellent binding properties and pigment loading acceptance</li> <li>• Very good adhesion on mineral substrates</li> <li>• Good exterior durability</li> <li>• Excellent water and alkali resistance</li> <li>• Good efflorescence resistance</li> <li>• Good Dirt Pick Up resistance</li> <li>• Versatility for broad formulating latitude</li> <li>• Easy to handle and formulate</li> </ul>
<b>Acromul® 570W</b>	50±1	6000-120000	16 -18	1.04	7 - 8.5	0.1-0.3	Emulsifier	Multi-Purpose Styrene Acrylic Emulsion for formulators requiring to formulate high Washable & Economic coatings accompanied with Excellent Gloss level	<ul style="list-style-type: none"> <li>• Excellent Washability results accompanied by Excellent Gloss level</li> <li>• High pigment loading acceptance</li> <li>• Very good adhesion on mineral substrates</li> <li>• Excellent water and alkali resistance</li> <li>• Good efflorescence resistance</li> <li>• Good Dirt Pick Up resistance</li> </ul>
<b>Acromul® 425ES</b>	45±1	4000-8000	16 -18	1.04	7 - 8.5	0.1-0.3	Emulsifier	Multi-Purpose Styrene Acrylic Emulsion for Economic formulations with high Washability & Economic coatings accompanied with Excellent Gloss level	<ul style="list-style-type: none"> <li>• Very Good Washability results accompanied by good Gloss level</li> <li>• High pigment loading acceptance</li> <li>• Excellent water and alkali resistance</li> <li>• Good cost reduction</li> </ul>
<b>Acromul® 560EL</b>	50±1	3000-10000	5	1.01	7.5 - 9.5	0.1-0.3	Surfactants	For all purpose applications, it is designed to improve the properties and performance of elastomeric roof coatings for a wide variety of roofing substrates, This polymer significantly contribute to various key features that are essential for long lasting reflective coatings	<ul style="list-style-type: none"> <li>• High elongation with good tensile strength, reliable water resistance &amp; adhesion, long-term dirt pick-up resistance &amp; UV resistance.</li> <li>• Very high crack resistance at low temperature, excellent dirt pick-up resistance</li> <li>• Excellent tensile strength, exterior durability, UV resistance, adhesion, dirt pick-up resistance</li> <li>• PU thickeners or Acrylic thickeners are recommended</li> </ul>
<b>Acromul® 520PG</b>	50±1	1000-3000	14 - 16	1.06	7.5 - 9.5	0.1-0.3	Surfactants	It is a 100% acrylic dispersion supplied at 50% solids, designed for high performance semigloss paints for interior and exterior applications.	Demonstrates wide formulation range from gloss through semi-gloss to flat paints, for both interior and exterior applications.
<b>Acromul® 505PS</b>	50±1	<500	14 - 16	1.06	8-9	0.1-0.3	Surfactants	In semi-gloss and gloss formulations has been tested over a variety of substrates, and no differences were observed after 12 months exterior exposure. The 100% acrylic back bone ensures the gloss retention, tint retention, dirt pick up resistance and alkali resistance will be equivalent to the high standard associated with the type of product.	Excellent gloss retention, tint retention; dirt pick-up resistance and alkali resistance The hardness level makes it a suitable binder also for miscellaneous applications such as interior undercoats, masonry paints, floor paints and tennis court paints, making it a truly general purpose binder

S.C., ISO 3251 (%)

Viscosity, ISO 2555 (cPs)

MFFT, ISO 2115 (°C)

Density (g/cm<sup>3</sup>)

pH, ISO 976

Product	S.C(%)	Viscosity	MFFT	Density	pH	Particle size	Emulsifying system	Field(s) of Applications	Characteristics Enabled by the product
<b>Acromul® A640</b>	60±1	4000-10000	10 - 12	1.06	4-6	0.6-1.5	Surfactants	A water- based dispersion/ emulsion of Vinyl Acetate-Acrylic Co-polymer. It is a surfactant stabilized emulsion. It gives Hard & Flexible Film & used for general -purpose Plastic emulsion Paint, Low Cost Distemper / Emulsion Paint.	<ul style="list-style-type: none"> <li>• It is suitable for most interior coatings from flat to semi-gloss, textured coatings, primers and plasters.</li> <li>• Good Scrub resistance</li> <li>• Good Outdoor durability</li> <li>• Versatile and easy to formulate.</li> </ul>
<b>Acromul® A520</b>	50±1	3000-6000	10 - 12	1.08	4-6	0.2-0.5	Surfactant	Multi-Purpose Vinyl Acetate Acrylic Emulsion for formulators requiring to formulate high Washable & Economic coatings accompanied with Excellent Gloss level	<ul style="list-style-type: none"> <li>• Excellent Washability results accompanied by Excellent Gloss level</li> <li>• High pigment loading acceptance</li> <li>• Very good adhesion on mineral substrates</li> <li>• Excellent water and alkali resistance</li> <li>• Good efflorescence resistance</li> <li>• Good Dirt Pick Up resistance</li> </ul>

S.C., ISO 3251 (%)

Viscosity, ISO 2555 (cPs)

MFFT, ISO 2115 (°C)

Density (g/cm<sup>3</sup>)

pH, ISO 976



**Supstro®** - Emulsions represent the premium quality vinyl acetate, Veova copolymers and Terpolymer of vinyl acetate, Veova & Special type of Acrylic Acid Ester for quality and performance in the field of interior and exterior paint, coatings and Constructions, The **Supstro®** offers its customers all new specs that ensures a continues grow up with a very high mechanical stability

## Product Specifications

Product	S.C(%)	Viscosity	MFFT	Density	pH	Particle size	Emulsifying system	Field(s) of Applications	Characteristics Enabled by the product
<b>Supstro® 585V</b>	55±1	3000-6000	5	1.04	4-5	0.2-0.5	Surfactant	Indoor and outdoor water based satin and glossy paints, textured coatings, and primers.	Characterized by optimum combination of different elements affecting products performances in building industry: binding power, rheological behavior, and film sensitiveness to Water, compatibility with several fillers, pigments and additives, resistance to atmospheric agents. Exterior water based paints based on Supstro® 585V show low water absorption and good permeability to vapor.
<b>Supstro® 540CV</b>	50±1	3000-6000	5	1.04	4-5	0.2-0.5	Surfactant	Indoor and outdoor water Silk paint , Sheen paint , Deep shade paint , Roof paint , Etch primers, Both exterior and interior paint and textured coatings	Characterized by optimum combination of different elements that affect products performances in building industry: binding power, rheological behavior, and film sensitiveness to water, compatibility with several fillers, pigments and additives, resistance to atmospheric agents. Exterior water based paints based on Supstro® 540CV show low water absorption and good permeability to vapor Supstro® 540CV is stable to alkali action, thus paints produced using It can be applied even on substrates showing a residual alkalinity without being damaged
<b>Supstro® 570V</b>	50±1	4000-7000	5	1.04	4-5	0.2-0.5	Surfactant	Supstro® 570V is used in the formulation of thick coatings and silk or gloss paints. It can also be used in the manufacture of textured coatings, roof coatings, silk paint, Sheen paint, Deep shade paint, Roof paint, Etch primers, Both exterior and interior paint	Characterized by good flexibility and durability. It has good alkali and scrubs resistance which makes it suitable for manufacture of highly filled coatings. It has excellent UV resistance and is therefore best suitable for exterior coatings
<b>Supstro® 585VE</b>	55±1	3000-6000	5	1.05	4-5	0.2-0.5	Surfactant	Supstro® 585VE is used in the formulation of Economic thick coatings and silk or gloss paints. It can also be used in the manufacture of cost effective textured coatings, roof coatings,	Characterized by good flexibility and durability. It has good alkali and scrubs resistance which makes it suitable for manufacture of highly filled coatings. It has excellent UV resistance and is therefore best suitable for exterior coatings
<b>Supstro® T535</b>	55±1	3000-6000	5	1.05	4-5	0.3-0.7	Surfactant	Due to its composition of special acrylic ester, it is recommended to be used in the formulation of exteriors paints because of the high resistance to alkalinity and to the high resistance to weather conditions. High PVC content paints and putty formulated with Supstro® T535 boast a high adhesion power and excellent wet scrub resistance.	Characterized by good flexibility and durability. It has good alkali and scrubs resistance which makes it suitable for manufacture of highly filled coatings. It has excellent UV resistance and is therefore best suitable for exterior coatings

S.C., ISO 3251 (%)  
MFFT is available at any required value

Viscosity, ISO 2555 (cPs)

MFFT, ISO 2115 (°C)

Density (g/cm<sup>3</sup>)

pH, ISO 976



Product	S.C.(%)	Viscosity	MFFT	Density	pH	Particle size	Emulsifying system	Field(s) of Applications	Characteristics Enabled by the product
<b>Supstro® T520</b>	50±1	3000-6000	5	1.05	4-5	0.2-0.6	Surfactant	<p>Due to its features, it particularly fits the formulation of satin-like and semi-glossy water based paints with good rheological features a.</p> <p>Due to its composition of special acrylic ester, it is recommended to be used in the formulation of exteriors paints because of the high resistance to alkalinity and to the high resistance to weather conditions. High PVC content paints and putty formulated with Supstro® T520 boast a high adhesion power and excellent wet abrasion resistance.</p>	<p>Characterized by good flexibility and durability. It has good alkali and scrubs resistance which makes it suitable for manufacture of highly filled coatings. It has excellent UV resistance and is therefore best suitable for exterior coatings</p>
<b>Supstro® T520E</b>	50±1	3000-6000	5	1.06	4-6	0.2-0.6	Surfactant	<p>Supstro® T520E is used in the formulation of Economic coatings and silk or gloss paints. It can also be used in the manufacture of cost effective textured coatings, roof coatings</p>	<p>Characterized by good flexibility and durability. It has good alkali and scrubs resistance which makes it suitable for manufacture of highly filled coatings. It has excellent UV resistance and is therefore best suitable for exterior coatings</p>

S.C., ISO 3251 (%)

Viscosity, ISO 2555 (cPs)

MFFT, ISO 2115 (°C)

Density (g/cm<sup>3</sup>)

pH, ISO 976

MFFT is available at any required value



**Sundro®** - Offers an Extraordinary Homopolymers for glue, Putty and Coatings industries  
The Brand offers both Plasticized and Non-plasticized ensuring satisfaction of customer Extra needs.

## Product Specifications

Product	S.C(%)	Viscosity	MFFT	Density	pH	Particle size	Emulsifying system	Field(s) of Applications	Characteristics Enabled by the product
<b>Sundro® 4105P</b>	45±1	80000 -120000	5	1.06	3-5	0.3-3.0	Polyvinyl Alcohol	Paper, leather and textiles adhesives. Building adhesives and plasters.	Sundro® 4105P is a partially plasticized aqueous homopolymer of vinyl acetate monomer, particularly suitable to prepare adhesives to use on automatic machines for the production of boxes and cases. Very suitable for Fast setting, high thermal stability of glued joints with high ultimate strength, compatibility with solvents and plasticizers, yielding films of high toughness accompanied by flexibility, e. g. to formulate very fast setting paper and bookbinding adhesives, shear stable to a large extent Performance may vary depending on your formulation.
<b>Sundro® 5100P</b>	50±1	80000 -120000	5	1.06	3-5	0.3-3.0	Polyvinyl Alcohol	Paper, leather and textiles adhesives. Building adhesives and plasters.	Sundro® 5100P is a partially plasticized aqueous homopolymer of vinyl acetate monomer, particularly suitable to prepare adhesives to use on automatic machines for the production of boxes and cases, Fast setting, high thermal stability of glued joints with high ultimate strength, compatibility with solvents and plasticizers, yielding films of high toughness accompanied by flexibility, e. g. to formulate very fast setting paper and bookbinding adhesives, shear stable to a large extent Performance may vary depending on your formulation.
<b>Sundro® 5100N</b>	50±1	80000 -120000	17	1.06	3-5	0.3-3.0	Polyvinyl Alcohol	Sundro® 5100N is also suitable for the manufacture of wood and paper adhesives. It is used in the furniture industry where adhesives are applied for bonding wood, either with or without plastic laminates, in hot and cold conditions. It can be used in the building sector to make parquet adhesives, in bookbinding and, thanks to its quick setting time, in the packaging industry even when automatic machines for high speed production are used.	Sundro® 5100N is an aqueous polymer dispersion based on vinyl acetate particularly suitable for Fast setting, high thermal stability of glued joints with high ultimate strength, compatibility with solvents and plasticizers, yielding films of high toughness accompanied by flexibility, e. g. to formulate very fast setting paper and bookbinding adhesives, shear stable to a large extent Performance may vary depending on your formulation.
<b>Sundro® 4100N</b>	40±1	80000 -120000	17	1.06	3-5	0.3-3.0	Polyvinyl Alcohol	Sundro® 4100N is also suitable for the manufacture of wood and paper adhesives. It is used in the furniture industry where adhesives are applied for bonding wood, either with or without plastic laminates, in hot and cold conditions. It can be used in the building sector to make parquet adhesives, in bookbinding and, thanks to its quick setting time, in the packaging industry even when automatic machines for high speed production are used. Sundro® 4100N is particularly suitable to prepare low-cost adhesives for wood and its substitutes. It shows a good compatibility with fillers and is ideal to make parquet adhesives.	Sundro® 4100N is an aqueous polymer dispersion based on vinyl acetate particularly suitable for Fast setting, high thermal stability of glued joints with high ultimate strength, compatibility with solvents and plasticizers, yielding films of high toughness accompanied by flexibility, e. g. to formulate very fast setting paper and bookbinding adhesives, shear stable to a large extent Performance may vary depending on your formulation.

S.C., ISO 3251 (%)

Viscosity, ISO 2555 (cPs)

MFFT, ISO 2115 (°C)

Density (g/cm<sup>3</sup>)

pH, ISO 976

Product	S.C.(%)	Viscosity	MFFT	Density	pH	Particle size	Emulsifying system	Field(s) of Applications	Characteristics Enabled by the product
<b>Sundro® 5700P</b>	50±1	60000-90000	11	1.07	3-5	0.4 - 3.0	<b>Polyvinyl Alcohol</b>	<p>Sundro® 5700P is suitable for Emulsion Putty and fast setting wood glues e.g. adhesive for edge bonding and laminations of Formica to chipboard and joinery glues.</p> <p>The dispersion can be used in combination with plasticizers for the manufacturing of very fast setting paper adhesives.</p> <p>The dried film of it displays a high toughness and is therefore especially suitable for book covering as well as book binding.</p> <p>It is also a suitable binder for the production of floor, wall and ceiling adhesives.</p> <p>The Product is shear stable to a large extent and can be processed on fast running coating machines.</p>	<p>Sundro® 5700P is partially plasticized aqueous homopolymer of vinyl acetate monomer.</p> <p>The Minimum Film Forming Temperature of Sundro® 5700P can still be lowered further by addition of high boiling solvents such as polysolvan-O and butyl diglycol acetate or plasticizers such as phthalates.</p> <p>When necessary the recommended defoamers for polymer dispersions may be used.</p>

S.C., ISO 3251 (%)

Viscosity, ISO 2555 (cPs)

MFFT, ISO 2115 (°C)

Density (g/cm<sup>3</sup>)

pH, ISO 976



Sunovad® - Represents the most reliable standard additives, that are essential to complete your recipe, Brands are for Rheology Modifier, Dispersing Agents, Defoamers, DBM Palasticizer and Biocide respectively.

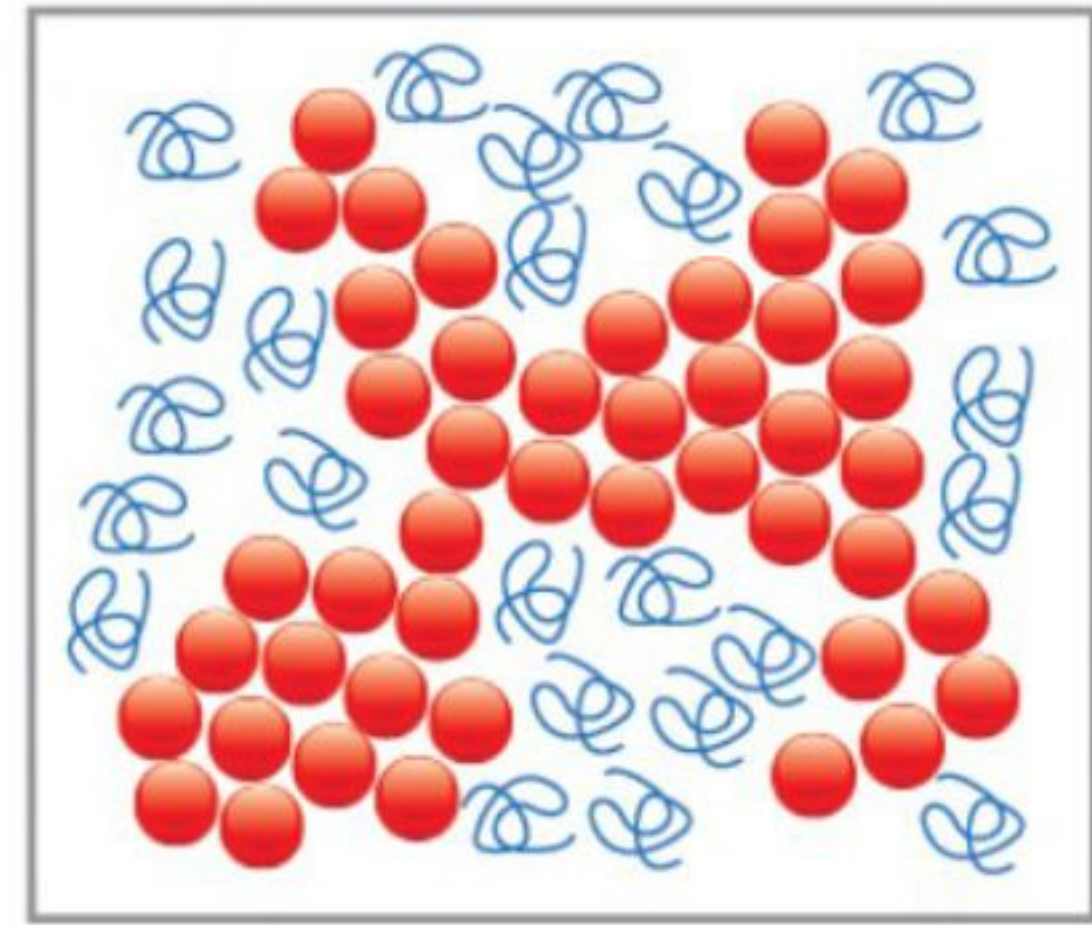
## Rheology Modifier



### Rheology Modifiers Methodology

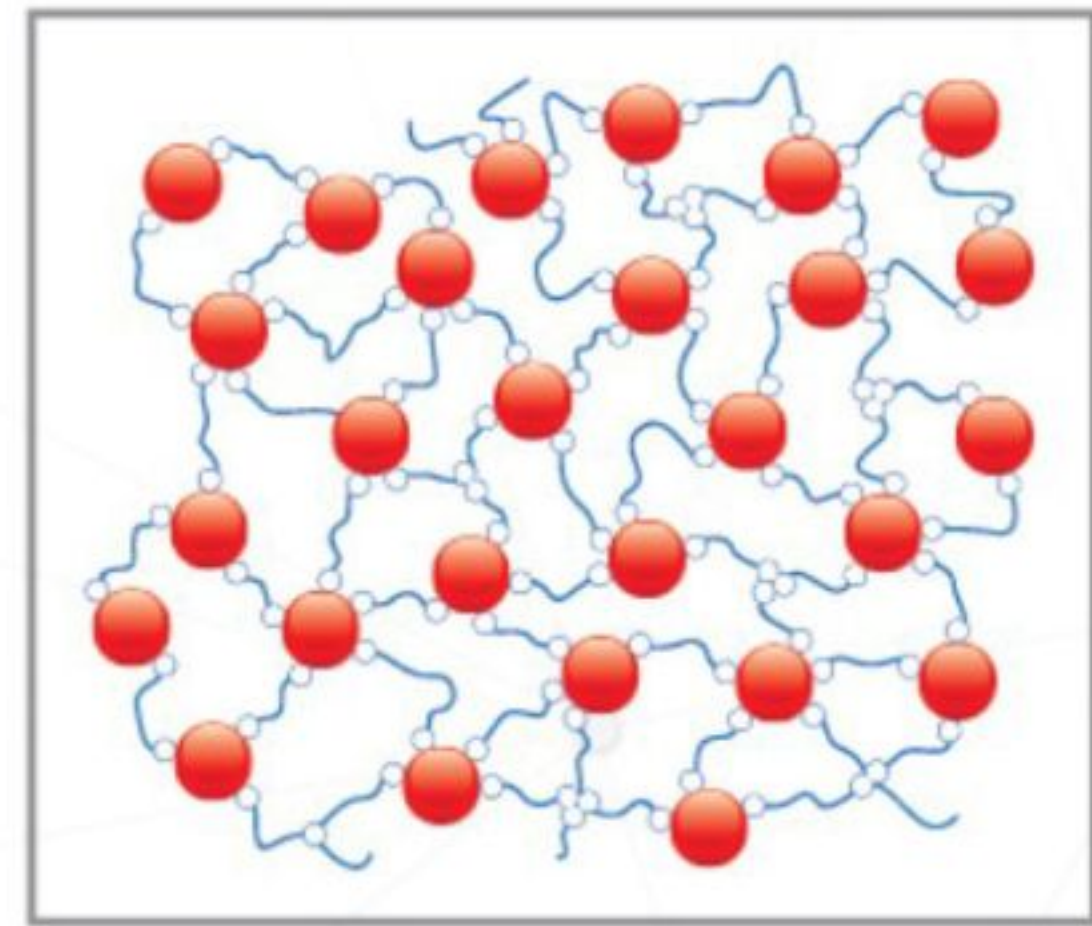
#### Volume Exclusion Thickeners

Provided by polymers that swell with water taking more space in the paint as cellulose ether and Hydroxyethylcellulose (HEC), their ability to thicken is depending on to the molecular weight and concentration in the paint formulation.



#### Associative Thickeners

It is also provided by water-soluble polymers but thickening here happens through water absorption and the attached hydrophobic groups that interact with each other and with latex particles in the paint to create a cross-linked network



ASE thickeners are copolymers of methacrylic acid and ethyl acrylate ester (Figure 1). They were developed to offer more rheology properties than cellulosic, but facilitate an easier-to-use and more cost effective product which is not losing viscosity under microbiological contamination.

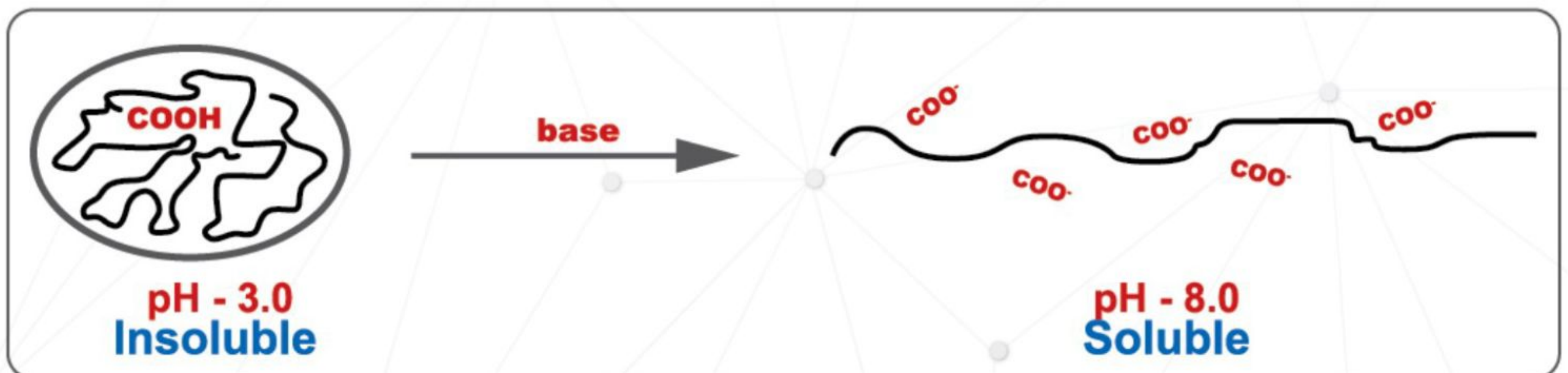


Figure 1

ASE products thicken via water absorption and swelling.

ASE thickeners rely on a change from low to high pH (neutralization) to trigger thickening. The “trigger” is built into the copolymer by creating an approximately 50:50 ratio of methacrylic acid, which is soluble in water, and an acrylate ester, which is not soluble in water. When the acid is un-neutralized (low pH), the copolymer is insoluble in water and does not thicken. When the acid is fully neutralized (high pH), the copolymer becomes soluble and thickens.

HASE thickeners are hydrophobically-modified alkali soluble emulsion. Which are tertiary polymers by adding a hydrophobic acrylic ester monomer to the ASE polymer composition, which are building viscosity by the association of hydrophobes.

HASE rheology modifiers are thickening via both absorbing water and hydrophobic association. This methodology is known as associative thickening, which offers higher performance for wide range of shear level with wider range of rheological properties than ASE and cellulosic performance.

HASE are supplied at high volume solids with lower molecular weight than that of ASE, they are more suitable for water sensitive applications from flat to gloss paint formulations to provide sag, spatter resistance and brush – roller drag.

**Sunovad® 340AT** is a hydrophobically modified anionic thickener, designed to give medium shear rate viscosity in interior/exterior flat to gloss latex paints, provides paints with outstanding resistance to roller spattering and better film build and leveling, Delivered as a low viscosity liquid, Sunovad® 340AT is very easy to handle and incorporate into the paint. It is resistant to microbiological degradation, thereby avoiding viscosity loss in the paint, a common problem encountered by paint manufacturers.

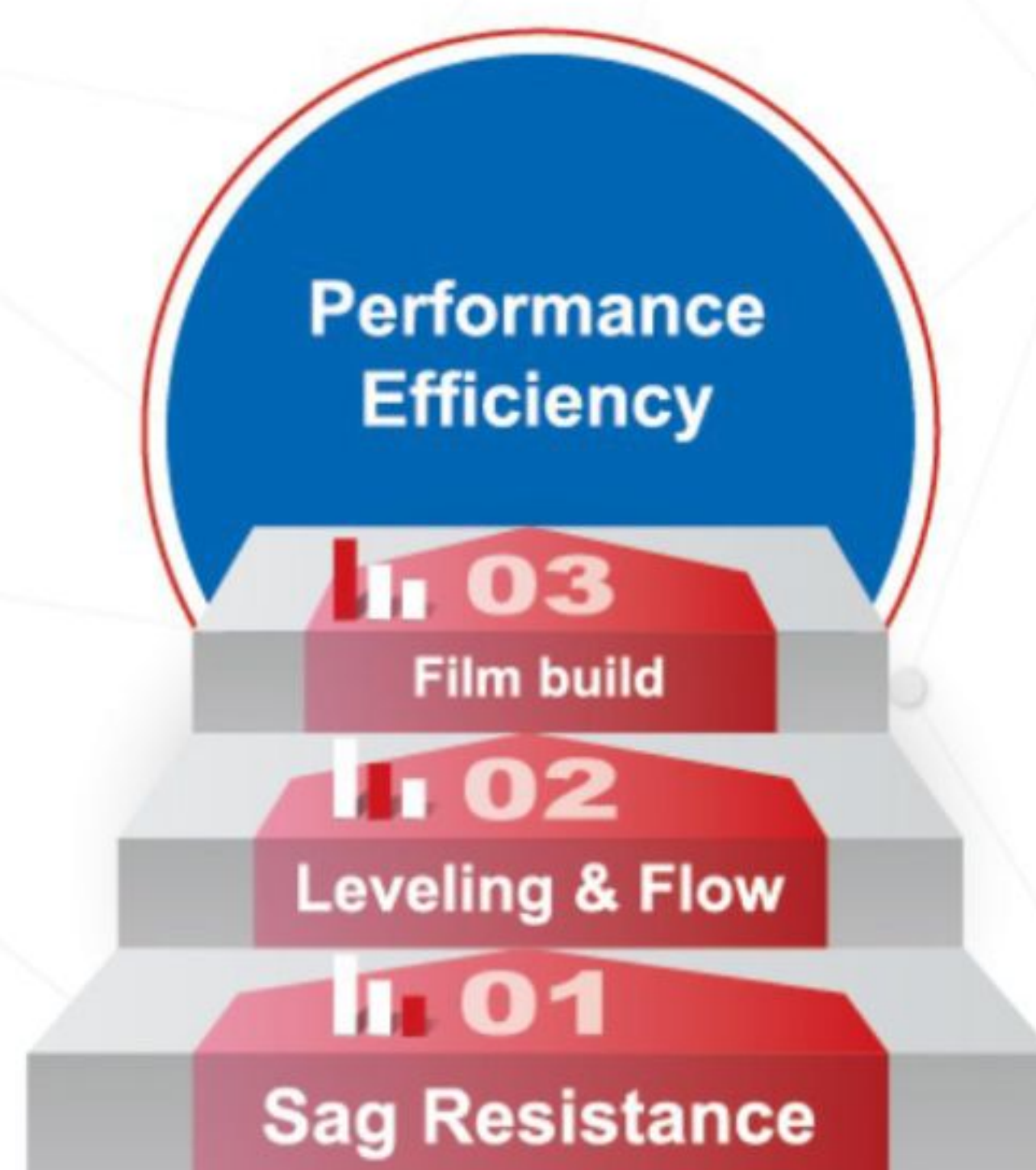
## Product Specifications

Product	S.C.(%)	Density	pH	Field(s) of Applications	Characteristics Enabled by the product
<b>Sunovad® 340AT</b>	30±1	1.05	2.5- 4.5	<p>Sunovad® 340AT is recommended for Low and medium shear Brookfield, and also can be used for high shear range.</p> <p>Due to its great efficiency, Sunovad® 340AT recognized excellent results in suspending pigments and fillers in water based paints, inks and the abrasive particles in waxes or polishes.</p>	<p>Cost effective, low and mid-shear builder that is suggested as a full or partial replacement for high viscosity cellulose ethers in interior formulations.</p> <p>To get the best results, pH of the mill base must be adjusted to alkaline pH before slow addition of Sunovad® 340AT, to start recognize its rheological effect.</p>

S.C., ISO 3251 (%)

Density (g/cm<sup>3</sup>)

pH, ISO 976



## Dispersing Agents



Dispersing agents are used to wet and stabilize pigments and other particles within paints, coatings and ink formulations. For formulators they represent an essential component as they provide color strength, gloss, and viscosity stability and prevent sedimentation of particles.

Ideal coatings are characterized by a perfect pigment dispersion and long term stabilization in the formulation  
Stages of pigment dispersion:

### 1. Wetting stage:

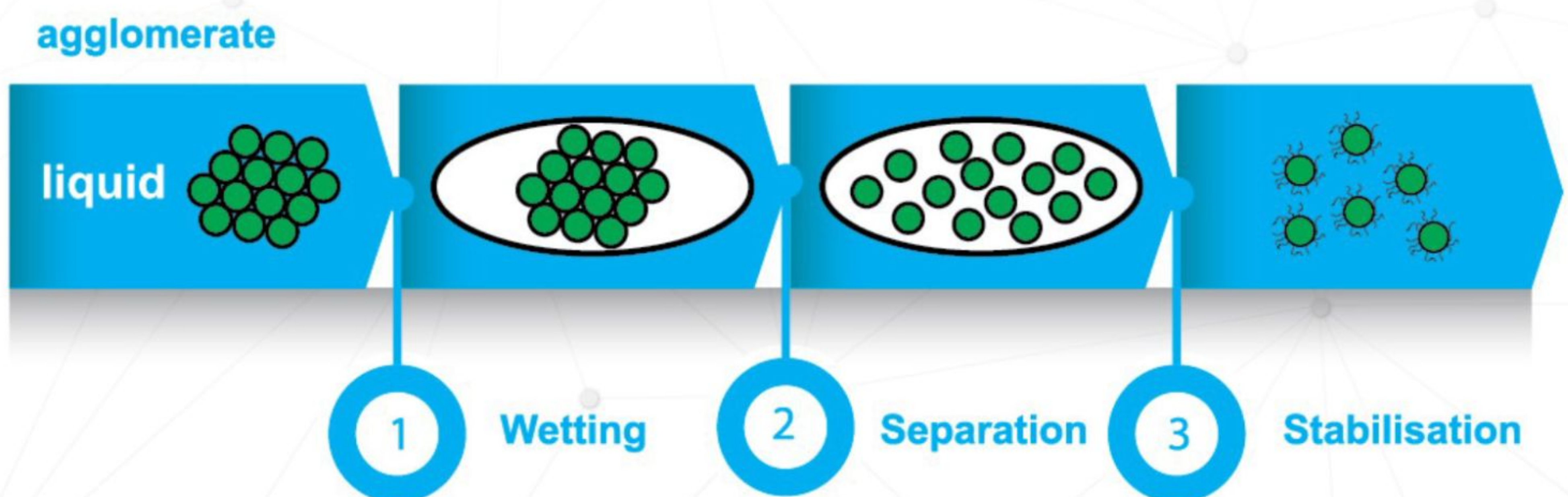
It consists of replacement of air that surrounds the pigment sphere with the resin used in the formulation, it happens when the wetting agent is adsorbed to decrease the surface tension between pigment particles and resin.

### 2. Grinding stage:

After wetting stage, de-agglomeration is a necessary step, this is provided by high impact mill equipment, in the grinding stage, the mechanical force must overcome the coherent power between pigment particles resulting in smaller particle sizes surrounded by the resin by extra amounts of wetting agents.

### 3. Dispersion stage:

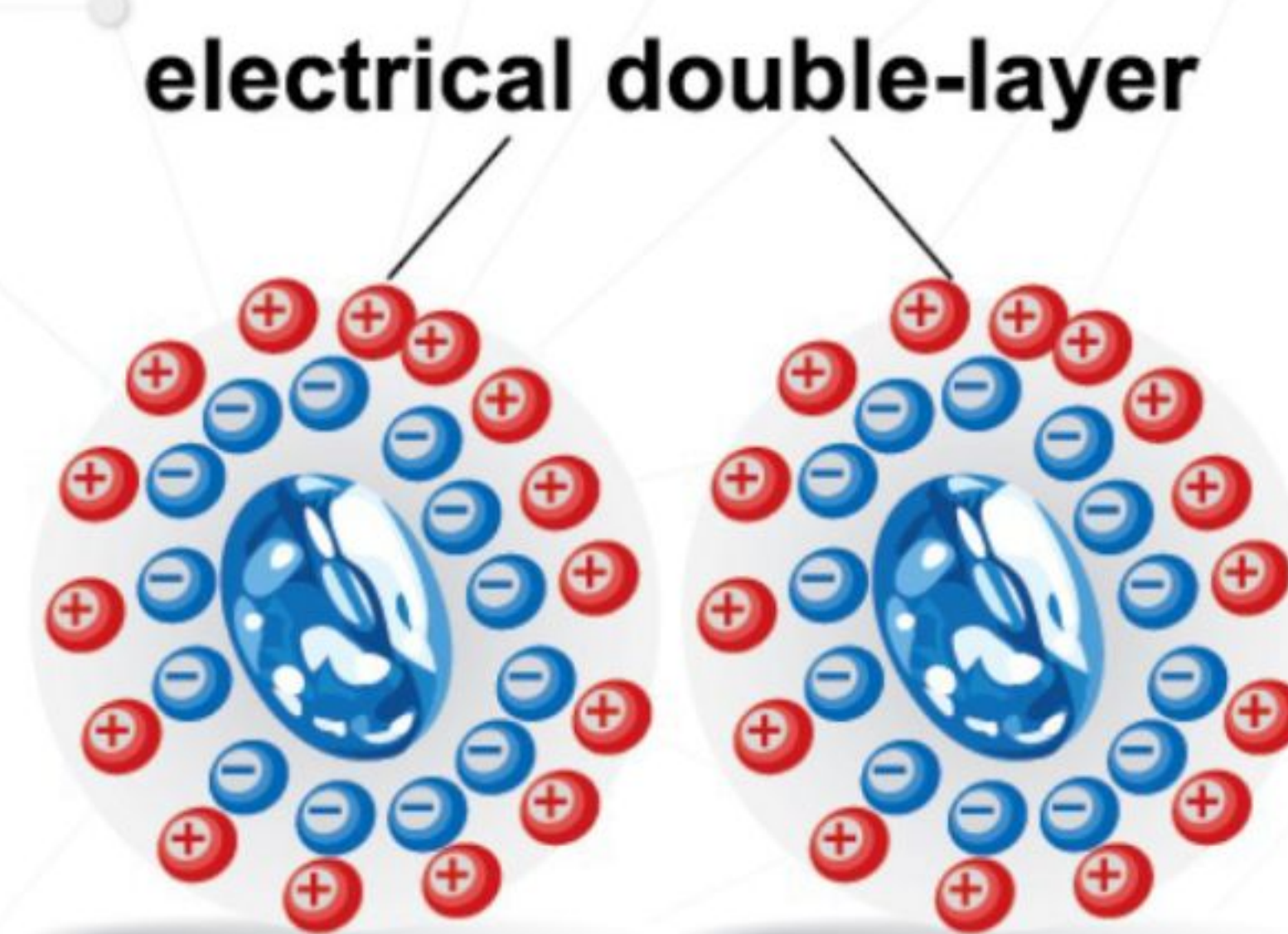
Once de-agglomeration is happened, flocculation <sup>(1)</sup> will be formed, resulting in reduced color strength, decreased gloss, and altered rheology then may,



<sup>(1)</sup> Flocculation are the same as agglomeration but the difference is that flocculation is adhered particles with resin in between them but in agglomeration particles are surrounded by air.

a. Electrostatic stabilization: electrostatic stabilization occurs when equally-charged local sites on the pigment surface come into contact with one another. Two particles having the same charges give a repelling effect. The resulting Coulomb-repulsion of the charged particles allows the system to remain stable.

b. Steric stabilization A pigment is said to be sterically stabilized when the surface of the solid particles are completely covered by polymers, making particle-to-particle contact impossible. Strong interactions between polymers and solvents (organic solvent or water) prevent the polymers from coming too closely into contact with one another (flocculation).



## Product Specifications

Product	S.C(%)	Viscosity	Density	pH	Field(s) of Applications	Characteristics Enabled by the product
<b>Sunovad® 530CA</b>	45±1	150-500	1.31	7.0 -9.0	Sunovad® 530CA is ammonium polyacrylate copolymer, standard dispersing agent for inorganic fillers and pigments; low poly-dispersity leading to most efficient dispersing properties and liquefying effect.	Sunovad® 530CA should be added to the water Phase Prior to addition of undispersed Pigments. Recommended dosage levels are 0.15 - 0.5% based on dry Pigments and Extenders. When used in combination with polyphosphate, e.g. Calgon N or Potassium Pyrophosphate it provides a very good wetting effect. Sunovad® 530CA and Calgon N should be added in quantity of some 0.2 % of each.
<b>Sunovad® 530CS</b>	45±1	150-500	1.31	7.0 -9.0	Sunovad® 530CS is sodium polyacrylate copolymer, standard dispersing agent for inorganic fillers and pigments; low poly-dispersity leading to most efficient dispersing properties and liquefying effect.	Sunovad® 530CS should be added to the water Phase Prior to addition of undispersed Pigments. Recommended dosage levels are 0.15 - 0.5% based on dry Pigments and Extenders. When used in combination with polyphosphate, e.g. Calgon N or Potassium Pyrophosphate it provides a very good wetting effect. Sunovad® 530CS and Calgon N should be added in quantity of some 0.2 % of each.
<b>Sunovad® 435HA</b>	40±1	150-500	1.31	7.0 -9.0	Sunovad® 435HA is ammonium polyacrylate homopolymer, standard dispersing agent for inorganic fillers and pigments; low poly-dispersity leading to most efficient dispersing properties and liquefying effect.	Sunovad® 435HA should be added to the water Phase Prior to addition of undispersed Pigments. Recommended dosage levels are 0.15 - 0.5% based on dry Pigments and Extenders. When used in combination with polyphosphate, e.g. Calgon N or Potassium Pyrophosphate it provides a very good wetting effect. Sunovad® 435HA and Calgon N should be added in quantity of some 0.2 % of each.
<b>Sunovad® 435HS</b>	40±1	150-500	1.255	7.0 -9.0	Sunovad® 435HS is sodium polyacrylate homopolymer, standard dispersing agent for inorganic fillers and pigments; low poly-dispersity leading to most efficient dispersing properties and liquefying effect.	Sunovad® 435HS should be added to the water Phase Prior to addition of undispersed Pigments. Recommended dosage levels are 0.15 - 0.5% based on dry Pigments and Extenders. When used in combination with polyphosphate, e.g. Calgon N or Potassium Pyrophosphate it provides a very good wetting effect. Sunovad® 435HS and Calgon N should be added in quantity of some 0.2 % of each.

S.C., ISO 3251 (%)

Viscosity, ISO 2555 (cPs)

Density (g/cm<sup>3</sup>)

pH, ISO 976

## Defoamers



### What is Foam?

Foam is considered as gas in a liquid, thermodynamically, liquid foams are not stable on the surface, so it is burst immediately, surfactants that used in the manufacturing of paints, lower the surface tension resulting in foam stability.

Defoamers are working on entering the foam and spread on the air/liquid surface decreasing its surface tension and consequently, killing foams.

**Defoamers**<sup>(1)</sup> are a surface active agent that destroys foam after it has been formed, it suppress and destroy foam and its negative effects prior to and during application of a coating. By removing or inhibiting air bubbles they are important process aids throughout the paint production as well as the application process.

Paint manufacturers benefit from foam-free production processes by reaching their desired results much quicker and do not have to worry about additional negative side effects, for example inaccurate filling of containers due to entrapped air. During application the buildup of foam has to be prevented to ensure an optimum paint surface without any remaining bubbles or other surface defects.

### Product Specifications

Product	pH	Field(s) of Applications	Characteristics Enabled by the product
<b>Sunovad® 200SK</b>	6-8	Sunovad® 200FK is a silicon based defoamer, highly recommended for high gloss and industrial coating, silk and gloss emulsion paints, inks and overprint varnishes and adhesives.	High efficient defoamers for emulsion paints with excellent spreading capability, thermal stability, chemical inertness and water insolubility.  Dose is in general a rate of 0.1 – 1.0 % calculated on the total quantity of paint formulation. <sup>(2)</sup>
<b>Sunovad® 200SFK</b>	N.A	Sunovad® 200SFK is a silicon free defoamer characterized by a long-lasting de-foaming effect in different emulsion systems over wide PVC - range.	Sunovad® 200SFK controls the foaming tendency of surfactants in water-based coatings and inks formulations without affecting the final film properties.  Dose is in general a rate of 0.15 – 0.35 % calculated on the total quantity of paint formulation. <sup>(2)</sup>

pH, ISO 976

<sup>(1)</sup>Defoamers kill foams after it is being formed; anti-foaming agents are added to prevent formation of foam before it is being formed.

<sup>(2)</sup>It is recommended to add 2/3 of the quantity to the mill base formulation then the rest of the quantity during the let- down stage.





**DBM Plasticizer** is considered as an additive and intermediate for plastics, pigments, pharmaceuticals and agricultural products, as an intermediate for the production of paints and adhesives, as a monomer used to react and form copolymers with vinyl acetate, vinylidene chloride, styrene and other monomers. It is also used to improve film and tack properties in PVA applications.

### Product Specifications

Product	Density	Molar Mass	Ester content (%)	Moisture content (%)	Acid value	Heat stability	Volatile loss by mass (%)	Alcohol content (Wt.%)	Field(s) of Applications	Characteristics Enabled by the product
<b>Sunovad® DBM105</b>	0.992 - 0.998	228.3	99.0 min.	0.1 max	0.1 max	50	0.5 max.	0.08 max.	Sunovad® DBM105 is internal plasticizer for PVA, Styrene & Acrylates, commonly used in the paint industry as a co-monomer in vinyl and acrylic emulsion polymerization for various adhesives and paints. Copolymers formed with vinyl acetate and DBM are used in the manufacturing of paints, giving them higher flexibility, resistance to water and ultra violet light, besides higher adherence,	Sunovad® DBM105 is an unsaturated ester which is used for creating sulfosuccinate surfactants in detergents and paints. Other applications of DBM include use in plastisols, dispersions, coatings, adhesives, and synthetic lubricants.

Density (g/cm<sup>3</sup>)

Molar mass (g/mol.)

Heat stability (°C)

Viscosity, ISO 2555 (cPs)

Acid value (mg KOH/g)

## Biocide



The paint industry has long been aware of the problems of microbial attack on painted surfaces, Microbial growth can lead to both aesthetic and physical degradation of the coating or painted surface, In addition to the obvious aesthetic effects of mold, mildew and algae growth, physical deterioration by their enzymes can lead to physical degradation, This degradation can include an increase in porosity of the surface coating or a loss of adhesion to the substrate. Moisture penetration can lead to fungal decay of the underlying wood Biodegradation is not limited to the surface coating or dry paint films; it can also occur during production and storage of the paint.

One of the formulator's main goals is to achieve broad-spectrum and long-lasting protection of the paint film Sunovad® Q609 is one of Quaternary Ammonium Compound, Typically known as "Quats" Present in thousands of end-use formulations, many of which are blends of various Quats.

Common uses include disinfectants, surfactants, fabric softeners, antistatic agents, and wood preservation, and from its chemical structure, it is a strongly cationic, so will attach to surfaces, both organic and inorganic with high stability resulting in long lasting protection, due to its positive charge character, it attach to the bacteria which are negative in charge, causing the cytoplasmic membrane to leak, damaging and eventually killing the bacteria.

## Product Specifications

Product	Density	pH	Heat stability	Field(s) of Applications	Characteristics Enabled by the product
<b>Sunovad® Q609</b>	0.98	7-9	Up to 60	Sunovad® Q609 is highly recommended for polymer dispersions, dispersion latex paints, stucco, adhesives, pigment pastes and other coating Systems.	<p>Sunovad® Q609 has a broad spectrum of activity against bacteria, yeast, fungi and some algae. <sup>(1)</sup></p> <p>The level necessary to protect a formulation depends on the composition of the formulation and the intended end-use conditions.</p> <p>Dose is 0.1 – 0.3% for in-can preservation of emulsion polymers, paints, Plasters, adhesives and other coating formulations<sup>(2)</sup></p>

Density (g/cm<sup>3</sup>)

pH, ISO 976

Heat stability (°C)

<sup>(1)</sup> The determination of the minimum inhibitory concentration (MIC values) is an indication of the concentration level at which growth of the test organism is completely inhibited under laboratory conditions.

<sup>(2)</sup> All suggested dosages should be evaluated prior ton commercialization for compatibility and Storage stability.



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**Growing Together**



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ISO 14001 (2015)  
BS-OHSAS 18001 (2007)  
ISO 9001 (2015)  
ISO/IEC 17025 (2005)

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