

# Solutions for performance and consumer appeal

Personal Care



# The science that drives your success

Our technologies and expertise deliver the essential solutions you need to create the finest personal care products.

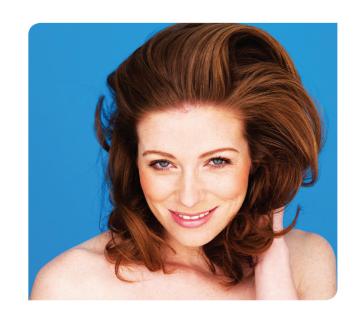
At Nouryon, we focus on creating environmentally safe and best-in-class personal care solutions to help formulators set the standard for performance and consumer appeal. To do that, we rely on a skilled team of scientists and technical experts who have the experience and product application know-how to create new solutions and deliver consistent results.

Our range of aesthetic modifiers, conditioning agents, rheology modifiers, film formers, cleansing agents, emulsifiers and active ingredients provide you with easy-to-use solutions for formulating novel and more sustainable products.

Our scientific approach to innovation and best-in-class technologies – including polymers, bio-polymers and surfactants – is the backbone of our ingredient development. We strive to provide innovative solutions that enable formulators to make efficient products that meet market trends with sensorial characteristics and benefits that match consumer expectations.

### Your passion for beautiful hair and skin is our inspiration

From ideas to finished products, we are committed to bringing science and beauty together to help you achieve your goals.



## Essential solutions, full spectrum portfolio

Our extensive portfolio features high-quality polymers, bio-polymers, and specialty surfactants for a wide range of hair, skin and sun care formulations.





### Actives

Our actives provide long-lasting moisturization and enhanced sensory performance in a broad range of personal care formulations. ElfaMoist® AC is a non-tacky humectant for high performing skin care formulations with instant and long-lasting moisturization (30 hours) benefits after a single application. It enables powerful new products in a wide range of applications such as body creams and lotions, facial treatment anti-aging creams, shower and bath, baby lotions and sun care.

### **Brands**

ElfaMoist® AC humectant Hydrovance® moisturizing agent



### Cleansing agents

Our cleansing agents, such as Elfan® anionic surfactants, provide safe and gentle, yet effective cleansing while helping to boost foaming in mild shampoos and personal cleansing applications for adults and children alike.



Elfan® surfactants



### **Aesthetic modifiers**

Superior form, function and consumer appeal are within reach with our offering of native and modified starches for aesthetic enhancement. The aesthetic modifiers provide excellent oil adsorbency properties and help enhance product aesthetics by reducing the greasiness and tackiness in formulations, while improving slip and lubricity. Create elegant creams, lotions, antiperspirants/deodorants, sun care, color cosmetic products and dry shampoos with these ingredient options that promise unique sensory experiences.

### **Brands**

Amaze<sup>™</sup> Nordic Barley
Dry-Flo® starches
Natrasorb® starches
Purity<sup>™</sup> 21C Pure starch
Tapioca Pure starch



### Conditioning agents

Our mono and di-alkyl quats and polymers work across the spectrum of shampoos and conditioners to improve wet comb, detangling, hair feel and enhance appearance, while our quaternary surfactants offer superior wet and dry combing of hair with excellent sensory properties. We also offer a range of cationic conditioning agents and polyquaternium polymers to help improve wet and dry comb, enhance shine, fight frizz in hair styling applications, as well as options mild enough for use in leave-on skin care products.

### **Brands**

Armocare® surfactants Arquad® surfactants Celquat® polymers



### **Emulsifiers**

We offer a range of emulsifiers that are effective in both water-in-oil (W/O) and oil-in-water (O/W) emulsion systems across a variety of products applications – from creams, lotions, color cosmetics, deodorants to conditioners, cream rinses and conditioning shampoos. Our polymeric surfactants have high molecular weight, which leads to high efficiency (cost effective), mildness, less dependent on physical variables (salt, electrolytes) and efficient steric stabilization.

### **Brands**

Elfacos® emulsifiers Elfacos® ST emulsion stabilizers Ethomeen® emulsifier Ethomid® surfactant



### Film formers

Our range of polymers have been setting the standard for film-forming performance in hair and skin care formulations for over 40 years. In styling applications, highly efficient and effective film-forming polymers enable formulators to create a variety of performance properties across many product formats including hair sprays, gels, mousses and styling aids. In skin care applications, our film-forming polymers serve as enabling technologies when formulating sunscreen products for long wear, water resistance and consumer preferred aesthetic properties.

### **Brands**

Amphomer® polymers

Amaze™ polymers

Balance® polymers

Biostyle® polymers

Celquat® polymers

Dermacryl® polymers

DynamX® polymers

Flexan® II polymer

Resyn™ polymers

SolAmaze™ polymer

Yodosol® polymer

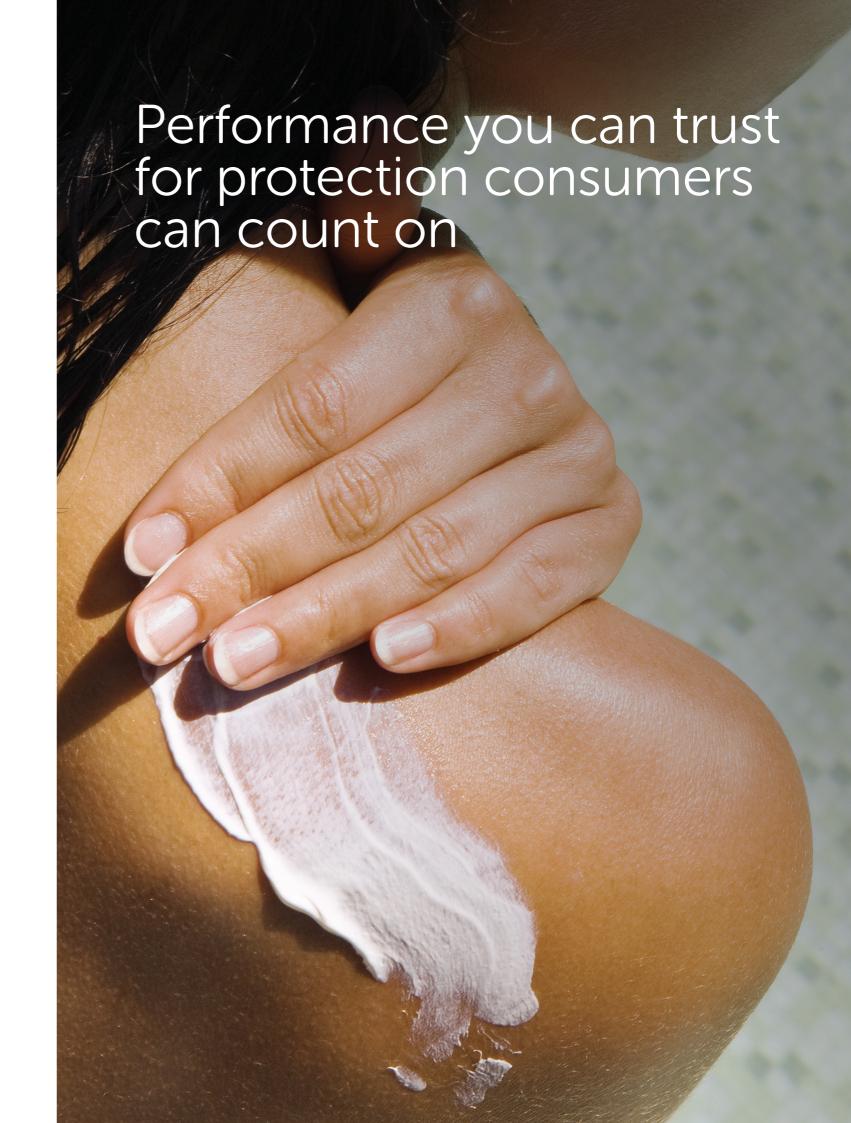


### Rheology modifiers

Rheology modifiers are essential ingredients to define product form and function.
They affect the flow and feel of a product, determine application properties, and enable the creation of products with consumer preferred textures and visual appeal. We provide a variety of synthetic and naturally derived polymers and surfactant thickeners to help formulators achieve desired and unique textures when developing the finest personal care products.

### Brands

Amaze™ XT polymer
Balance® RCFg polymer
Elfacos® GT 282S
nonionic copolymer
Structure® starches
and polymers





### Solutions delivering performance and consumer appeal

Actives	INCI designation	Appearance	Technical properties	Active content %	Tack in formulation	Moisturization		Applications	Lotion and cream	Mousse	Gel	Conditioner (leave in/rinse out)	Shampoo	Emulsions	Ointments	Serums	Bath and shower products	Shave products	Emulsion-based sunscreen	After sun	Biodegradability	Availability	Approved in China
ElfaMoist® AC	Acetamidoethoxyethanol	Clear, colorless to slightly yellow liquid		100	Low	30 hr								•	•		•	•	•	•	Readily	Global	
Hydrovance®	Hydroxyethyl Urea	Clear, colorless to slightly yellow liquid		50	Low	24 hr			•	•	•	•	•	•		•	•	•	•	•	Readily	Global	•
Aesthetic modifiers	INCI designation	Appearance	Technical properties	Active content %	Water dispersible	Oil absorption ml/g	Friction reduction (coefficient of friction)	Applications	Dry shampoo	Color cosmetics*	Powder	Emulsions	Low pH systems	Ointments	Bath & shower products	Shave sroducts	Emulsion-based sunscreen	Self tanners	After sun		Biodegradability	Availability	Approved in China
Amaze™ Nordic Barley 💍	Hordeum Vulgare Seed Flour	White powder		100	Yes	0.53	0.57		•		•		•				•		•		Readily	Global	•
Dry-Flo® PC 💍	Aluminum Starch Octenylsuccinate	White to off-white free flowing powder		100	No	0.65	0.36		•	•	•	•	•	•	•	•	•	•	•		Readily	Global	•
Dry-Flo® Pure	Aluminum Starch Octenylsuccinate	White to off-white free flowing powder		100	No	0.65	0.36		•	•	•	•	•	•	•	•	•	•	•		Readily	North and South America, Asia	•
Dry-Flo® TS 💍	Tapioca Starch (and) Polymethylsilsesquioxane	White to off-white powder		100	Yes	0.70	0.21		•	•	•	•	•	•	•	•	•	•	•		Readily	Global	•
Dry-Flo® TS Pure 💍	Tapioca Starch (and) Polymethylsilsesquioxane	White to off-white powder		100	Yes	0.70	0.21		•	•	•	•	•	•	•	•	•	•	•		Readily	Global	•
Natrasorb® Bath 💍	Tapioca Starch	White to off-white free flowing powder		100	Yes	3.62	N/A		•	•	•		•	•	•						Readily	Global	•
Natrasorb® HFB 💍	Aluminum Starch Octenylsuccinate (and) Acrylates Copolymer (and) Magnesium Carbonate	White to off-white free flowing powder		100	Yes	0.90	N/A		•	•	•	•	•	•	•							Global	•
Purity <sup>™</sup> 21C Pure 💍	Zea Mays (Corn) Starch	White to off-white free flowing powder		100	Yes	0.56	0.60		•	•	•			•							Readily	Global	•
Tapioca Pure 💍	Tapioca Starch	White to off-white free flowing powder		100	Yes	0.66	0.38		•	•	•	•		•			•		•		Readily	Global	•
Cleansing agents	INCI designation	Product form at 25°C	Technical properties	Active content %	CMC g/l @40°C	Kraft point		Applications	Shampoo	Bath and shower products	Shave products										Biodegradability	Availability	Approved in China
Elfan® AT 84	Sodium Cocoyl Isethionate	White powder		80	0.12 g/l	30°C			•	•	•										Readily	Global	•
Elfan® AT 84 G	Sodium Cocoyl Isethionate	Light yellowish granular		80	0.12 g/l	30°C			•		•										Readily	Global	•

O Naturally derived

 $<sup>{}^{\</sup>star} \ \mathsf{Includes} \ \mathsf{make-up, liquid} \ \mathsf{make-up, mascara, concealer, eyeshadow, lipstick, loose} \ \mathsf{powder, eyeliner, pressed} \ \mathsf{powder}$ 



### Strike the right balance of performance and sustainability

We offer a range of ingredients developed from widely available renewable resources that are more sustainable and effective to help you meet consumers' increasing desire for safe, clean label, free-from and natural hair and skin care products.

Conditionin agents	g INCI designation	Appearance	Technical properties	Active content %	Nitrogen charge	Viscosity in formulation		Applications	Lotion and cream	Mousse	Spray gel	Gel	Conditioner (leave in/rinse out)	Shampoo	nair color	Permanent wave	Bath & shower products	Shave products					Biodegradability	Availability	Approved in China
Armocare® APA-18V	Stearamidopropyl Dimethylamine	Off-white flakes		100		High			•				•										Readily	South America and Asia	•
Armocare® VGH-70	Dipalmitoylethyl Dimonium Chloride	Off-white pastilles		70	1.08-1.12 meq/g	High			•				•										Readily	Asia only	•
Arquad® PC SV-60 PG	Soytrimonium Chloride (and) Propylene Glycol	Clear liquid		60		Low			•	•	•	•	•	•	•								Readily	Global	•
Celquat® SC-240C 💍	Polyquaternium-10	Tan powder		100	1.4-2.2 (%)	Medium			•	•	•	•	•	•				•						Global	•
Celquat® SC-230M 💍	Polyquaternium-10	Tan powder		100	1.5-2.2 (%)	High			•	•	•	•	•	•			•	•						Global	•
Emulsifiers	INCI designation	Product form at 25°C	Technical properties	Active content %	HLB value	Pour point	Solubility	Applications	High VOC aerosol hair spray (80-100%)	Pump hair spray	Lotion and cream	Conditioner (leave in/rinse out)	Shampoo	Hair color	Permanent wave	Hair relaxer	Emulsions	Low pH systems	Ointments	Bath & shower products	Emulsion-based sunscreen	After sun	Biodegradability	Availability	Approved in China
Elfacos® E200	Methoxy PEG-22/Dodecyl Glycol Copolymer	Yellowish paste		> 99	6.2	30°C	Oil				•	•				•	•	•	•		•	•		Global	•
Elfacos® ST 9	PEG-45/Dodecyl Glycol Copolymer	Amber paste to solid		> 99	4.4	18-28°C	Oil				•	•				•	•	•	•		•	•		Global	•
Elfacos® ST 37	PEG-22/Dodecyl Glycol Copolymer	Amber viscous liquid		> 99	2.4	0-10°C	Oil				•	•				•	•	•	•		•	•		Global	•
Ethomeen® SV/12 💍	PEG-2 Soyamine	Amber liquid		> 99	10	10°C	Water		•	•	•			•									Inherent	Global	•
Ethomeen® HP/60 P	PEG-50 Hydrogenated Palmamide	Cream color solid		> 99	18	35-45°C	Water					•	•	•	•					•			Inherent	Global	

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 $<sup>{}^{\</sup>star}\, \text{Includes make-up, liquid make-up, mascara, concealer, eyeshadow, lipstick, loose powder, eyeliner, pressed powder}$ 

Film formers	INCI designation	Appearance	Technical properties	Technical properties Active content % Acidity meq/g		Solubility	L S	Low VOC aerosol hair spray (0-55%)	High VOC aerosol hair spray (80-100%)	Pump hair spray	Lotion and cream	Mousse	Spray gel	Gel	tioner in/rins	Dry shampoo	Shampoo	Emulsions	Low pH systems	Bath & shower products	Alcohol-based sunscreen	Emulsion-based sunscreen	Biodegradability	Availability	Approved in China
Amaze <sup>™</sup> <b>©</b>	Corn Starch Modified	Off-white powder		100	N/A	Water					•	•	•	•	•		•						Readily	Global	•
Amaze™ SP **	Sodium Polyitaconate	Off-white free flowing powder		100	N/A	Water				•	•	•		•					•					Global	
Amaze™ XT 💍	Dehydroxanthan Gum	Off-white free flowing powder		100	N/A	Water					•	•	•	•	•			•	•				Readily	Global	•
Amphomer®	Octylacrylamide/Acrylates/ Butylaminoethyl Methacrylate Copolymer	Fine, white, free flowing powder		100	1.88-2.22	Ethanol/Ethanol water blends/ Water 100% neutralized		•	•	•	•	•	•	•										Global	•
Amphomer® 4961	Acrylates/Octylacrylamide Copolymer	Fine, white, free flowing powder		100	2.20-2.50	Ethanol/Ethanol water blends/ Water 100% neutralized			•	•				•										Global	•
Amphomer® HC	Acrylates/Octylacrylamide Copolymer	Fine, white, free flowing powder		100	2.65-2.95	Ethanol/Ethanol water blends/ Water 100% neutralized			٠	•						•								Global	•
Amphomer® LV-71	Octylacrylamide/Acrylates/ Butylaminoethyl Methacrylate Copolymer	Fine, white, free flowing powder		100	2.20-2.60	Ethanol/Ethanol water blends/ Water 100% neutralized		•	٠	•	•	•	٠	٠										Global	•
Balance® 47	Octylacrylamide/Acrylates/ Butylaminoethyl Methacrylate Copolymer	Fine, white, free flowing powder		100	2.40-2.60	Ethanol/Ethanol water blends/ Water 100% neutralized		•	٠	•	•	•	٠			•								Global	•
Balance® CR	Acrylates Copolymer	White emulsion		43-47	1.40-1.60	Ethanol/Ethanol water blends/ Water 100% neutralized		•		•	•	•	٠	٠									Inheren	Global	•
Balance® RCFg	Acrylates Copolymer	White emulsion		29-31	Neutralize to pH 6.5 min	Water					•	•	•	•										Global	•
Biostyle® CPG **	Maltodextrin/VP Copolymer	Clear, slight yellow solution		22-26	N/A	Water				•	•	•	•	•									Inheren	Global	
Biostyle® XH **	Maltodextrin/VP Copolymer	Hazy, yellow solution		23-27	N/A	Water				•	•	•	•	•										Global	
Celquat® H-100 **	Polyquaternium-4	Tan powder		100	N/A	Water					•	•	•	•										Global	•
Celquat® L-200 **	Polyquaternium-4	Tan powder		100	N/A	Water					•	•	•											Global	•
DynamX®	Polyurethane-14 (and) AMP-Acrylates Copolymer	Slightly yellow, translucent liquid		26-30	N/A	Ethanol water blends		•	•	•	•	•	•	•		•							Inheren	Global	•
DynamX® H <sub>2</sub> O **	Polyurethane-14 (and) AMP-Acrylates Copolymer	Slightly yellow, translucent liquid		23-27	N/A	Ethanol water blends/Water				•	•	•	•	•									Inheren	Global	•
Flexan <sup>®</sup> II **	Sodium Polystyrene Sulfonate	Off-white powder		100	N/A	Water				•	•	•	•	•	•		•							Global	•
Resyn™ 28-2930	VA/Crotonates/Vinyl Neodecanoate Copolymer	Fine, translucent beads		100	1.10-1.22	Ethanol			•	•	•	•												Global	•
Resyn™ 28-2930 LVOC	VA/Crotonates/Vinyl Neodecanoate Copolymer	Fine, translucent beads		100	1.10-1.22	Ethanol water blends		•		•	•	•												North America only	•
Resyn™ XP	Acrylates/Octylacrylamide Copolymer	Fine, white, free flowing powder		100	2.22-2.52	Ethanol			•	•														Europe only	•
SolAmaze™ Natural 🕝	Diisostearyl Polyglyceryl-3 Dimer Dilinoleate (and) Caprylic/Capric Triglyceride	Amber liquid		60	< 10	Oil												•	•			•	Readily	Global	•
Yodosol® GH800F	Acrylates Copolymer	White to off-white emulsion		44-46	N/A	Dispersible in water																		Global	•
Dermacryl® AQF	Acrylates Copolymer	White to off-white emulsion		43.5-46.5	1.40-1.60	Ethanol water blends/Water											•	•				•	Inheren	Global	•
Dermacryl® C	Acrylates Copolymer	White to off-white emulsion		39.5-44-5	N/A	Dispersible in water																		Global	•
Dermacryl® E	Styrene/Acrylates Copolymer	White to off-white emulsion		44-46	N/A	Dispersible in water												•				•		Global	•
Dermacryl® X	Acrylates Copolymer	White to off-white emulsion		44-46	1.40-1.60	Dispersible in water												•			•	•		Global	•
Dermacryl® 79	Acrylates/Octylacrylamide Copolymer	Fine, white, free flowing powder		100	2.20-2.60	Ethanol/Ethanol water blends/ Water 100% neutralized															•			Global	•

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<sup>\*</sup> Includes make-up, liquid make-up, mascara, concealer, eyeshadow, lipstick, loose powder, eyeliner, pressed powder

<sup>\*\*</sup> This product has not been properly evaluated for safety clearance for use in pumps and/or aerosols with particle sizes less than 50 microns



### Get to know us

Your partner in essential solutions for a sustainable future

Learn more at nouryon.com

Rheology modifiers	INCI designation	Appearance	Technical properties	Active content %	pH range for thickening	Clarity in water	Rheology rprofile in water	ğ.	Lotion and cream	Spray gel	gel .	Conditioner (leave in/rinse out)	Shampoo	Hair color	Permanent wave	Hair relaxer	Color cosmetics*	Emulsions	Ointments	Bath & shower	products Shave products	Emulsion-based Sunscreen	Self tanners	After sun	Biodegradability	Availability	Approve	
Amaze™ XT 💍	Dehydroxanthan Gum	Off-white free flowing powder		100	3-10	Translucent	Short		•		•						•	•	•	•		•		•	Readily	Global	•	
Balance® RCFg	Acrylates Copolymer	White emulsion		29-31	6.5-12	Clear	Short		•		•		•	•	•	•				•	•					Global	•	
Elfacos® GT 282S 💍	Ceteareth-60 Myristyl Glycol	Pellets		100	2-12	Clear	Long					•	•	•	•			•	•	•					Readily	Global	•	
Structure® 2001	Acrylates/Steareth-20 Itaconate Copolymer	White, low viscosity, aqueous emulsion		28-30	6.5-12	Clear	Short		•	•		•	•	•				•			•					Global	•	
Structure® 3001	Acrylates/Ceteth-20 Itaconate Copolymer	White, low viscosity, aqueous emulsion		28-30	6.5-12	Clear	Short		•	•		•	•	•							•					Global	•	
Structure® Solanace™ 💍	Potato Starch Modified	White to off-white free flowing powder		100	3.5-11	Translucent	Long										•	•	•			•	•	•	Readily	Global	•	
Structure® XL 💍	Hydroxypropyl Starch Phosphate	White to off-white free flowing powder		100	3-9	Opaque	Short					•	•	•				•				•		•	Readily	Global	•	
Structure® ZEA 💍	Hydroxypropyl Starch Phosphate	White to off-white free flowing powder		100	3-9	Opaque	Short					•	•	•				•				•		•	Readily	Global	•	$\int$

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 $<sup>{}^{\</sup>star}\operatorname{Includes}\operatorname{make-up, liquid}\operatorname{make-up, mascara, concealer, eyeshadow, lipstick, loose powder, eyeliner, pressed powder}$ 

Contact us directly for detailed product information and sample request website | nouryon.com/markets/personal-care email | PersonalCare.Marketing@nouryon.com

### 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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