

One pager – Pioneer

EMB, Verdessence™ Biopolymers

Product information

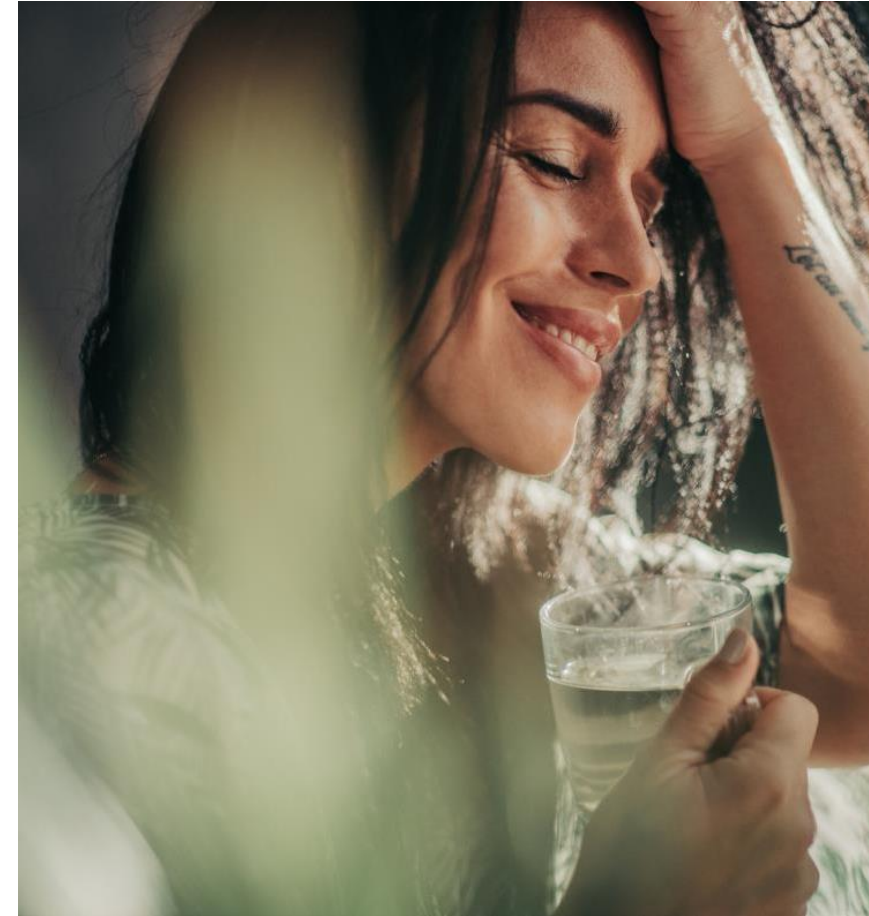
Application	Thickening, texturizing, film forming for: leave-on, rinse-off, styling and more
Customer industry	Personal Care
Market	Global
Region	Global

Differentiation potential

Rationale	<ul style="list-style-type: none">▪ Biodegradable and biobased multifunctional solutions, with a target on innovative production processes that allow to offer the highest performing ingredients
Technical benefit	<ul style="list-style-type: none">▪ Fits to broad range of applications▪ Synergistic effect when combine with each other

Sustainability performance

- Derived from natural, renewable feedstocks
- High natural origin index according to ISO 16128
- Readily biodegradable (OECD 301)
- COSMOS, Natrue approved
- Green manufacturing processes
- Non-GMO source and process



Star lineup of biopolymers in Personal Care

One pager – Pioneer

EMB, Lipofructyl[®] Argan LS 9779

Product information	
Application	Moisturization / Hair care
Customer industry	Personal Care
Market	Global
Region	Global

Differentiation potential	
Rationale	<ul style="list-style-type: none"> Wholly renewable based product Based on certified sustainable feedstock
Technical benefit	<ul style="list-style-type: none"> When applied to the skin, argan oil spreads easily & penetrates rapidly without giving oily or shiny effect, leaving an extraordinary softness & sensory skin feel.



Sustainability performance	
<ul style="list-style-type: none"> Organic and fair trade certified argan oil Sourced in partnership with an women’s cooperative in Morocco Enabling socio-economic development 	<ul style="list-style-type: none"> Multiple valorization of different parts of the tree to foster a better local impact Full end-to-end traceability to the source powered by a digital platform Monitoring of social & environment impacts

Responsible sourcing of argan based materials

One pager – Pioneer EMB, Cetiol® Ultimate

Product information

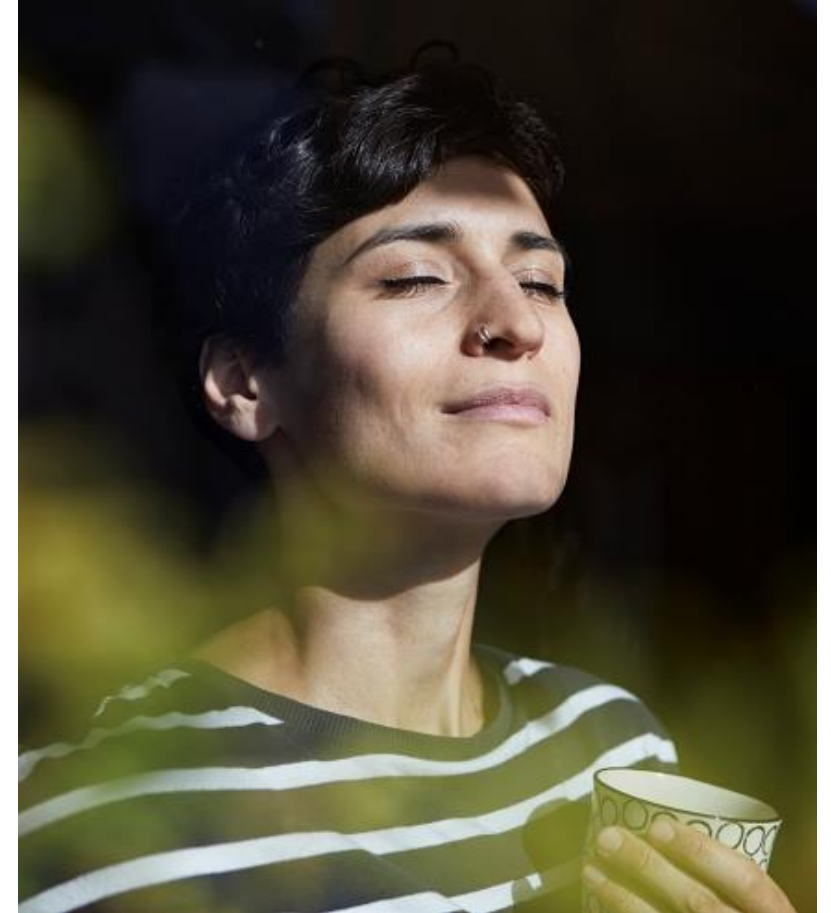
Application	Ultra-fast spreading emollient
Customer industry	Personal Care
Market	Face / Body / Sun Care and Color Cosmetics
Region	Global

Differentiation potential

Rationale	<ul style="list-style-type: none">▪ Wholly renewable-based▪ RSPO-certified
Technical benefit	<ul style="list-style-type: none">▪ Readily biodegradable▪ Dry smooth textures▪ Improve skin feel in natural cosmetics▪ Easy preparation of color cosmetics

Sustainability performance

- Renewable-based and volatile emollient
- Replacement of volatile silicones possible
- Easier to use than volatile hydrocarbons
- Gives more flexibility in the development of natural cosmetic concepts for improved skin feel
- Cosmos and NATRUE approved, recommended for Natural/ Organic formulation concepts



Renewable-based, fresh, dry and volatile

One pager – Pioneer EMB, Cetiol® C 5C

Product information

Application	Sensory emollient
Customer industry	Personal Care
Market	Face, Body, Sun and Color Care
Region	Global

Differentiation potential

Rationale	<ul style="list-style-type: none">▪ Wholly renewable-based▪ RSPO-certified
Technical benefit	<ul style="list-style-type: none">▪ Readily biodegradable▪ Fast spreading emollient▪ Excellent skin compatibility▪ Enhances the solubility of crystalline UV filters

Sustainability performance

- 100% derived from renewable feedstocks
- Product derived from certified sustainable palm-based material acc. RSPO Mass balance scheme
- Silicone Alternative
- Recommended for Natural/ Organic formulation concepts
- Similar to Cyclomethicone's key sensory parameters



A sensory emollient alternative to Cyclomethicone

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EMB, Tinosorb[®] M

Product information

Application	Leave-on Skin Care
Customer industry	Personal Care
Market	Sun Protection
Region	Global

Differentiation potential

- | | |
|--------------------------|--|
| Rationale | <ul style="list-style-type: none">▪ Unique photo-stable, broad-spectrum UV filter |
| Technical benefit | <ul style="list-style-type: none">▪ UVB filters for preventing skin damage and premature skin aging▪ Excellent formulation flexibility▪ Excellent protection against free radicals |

Sustainability performance

- | | |
|--|--|
| <ul style="list-style-type: none">▪ High efficiency at low concentration▪ Reliable and long-lasting protection▪ Cold processing (low temperature and low energy consumption) is possible▪ Designed for use in water phase▪ Has boosting effect with oil soluble UV filters | <ul style="list-style-type: none">▪ RSPO certified palm oil containing which enhances circular economy▪ Better toxicological profile than standard UVB filters▪ Does not contain preservative▪ Consumer Health Protection |
|--|--|



Unique carbon saving photo-stable broad-spectrum UV filter with formulation flexibility

One pager – Pioneer

EMB, Tinosorb[®] S

Product information

Application	Leave-on Skin Care
Customer industry	Personal Care
Market	Sun Protection
Region	Global

Differentiation potential

- | | |
|--------------------------|--|
| Rationale | <ul style="list-style-type: none">▪ Most efficient photo-stable UV filter at low concentration |
| Technical benefit | <ul style="list-style-type: none">▪ Oil soluble broad-spectrum UV filter for formulations with excellent sensory properties▪ Outstanding stabilizer for photo-unstable UV filters |

Sustainability performance

- | | |
|---|--|
| <ul style="list-style-type: none">▪ High efficiency at low concentration▪ Reliable and long-lasting protection▪ Efficient shielding against UV radiation for preventing long term skin damage | <ul style="list-style-type: none">▪ Better toxicological profile than standard UV filters▪ Does not contain preservative▪ Better photostability than conventional products |
|---|--|



Highly efficient oil soluble broad-spectrum UV filter at even low concentration

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EMB, Tinosorb[®] S Lite Aqua, Sun Care

Product information

Application	Leave-on Skin Care
Customer industry	Personal Care
Market	Sun Protection
Region	Europe, S. America, Asia (not sold in N. America)

Differentiation potential

- | | |
|--------------------------|---|
| Rationale | <ul style="list-style-type: none"> High sun protection performance due to UV filter balance in water and oil phase |
| Technical benefit | <ul style="list-style-type: none"> Reduction of oil phase for more formulation flexibility No solubilization required Pumpable |

Sustainability performance

- | | |
|---|--|
| <ul style="list-style-type: none"> Encapsulation technology for optimal film formation on the skin leading to higher SPF Partition of total UV filter amount to oil AND water phase Absorption spectrum as broad as Tinosorb[®] M Perfectly suited for formulations according to EcoSun Pass | <ul style="list-style-type: none"> Cold processable Time and energy reduced for preparing formulation Does not contain preservative Helps to prevent long term skin damage |
|---|--|



Award winning encapsulation technology allows formulation flexibility.

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EMB, Tinosorb[®] A2B

Product information

Application	Leave-on Skin Care
Customer industry	Personal Care
Market	Sun Protection
Region	Europe, S. America, Asia (not sold in N. America)

Differentiation potential

- | | |
|--------------------------|---|
| Rationale | <ul style="list-style-type: none"> ▪ Most efficient photostable UVB / UVA II filter in water dispersible form |
| Technical benefit | <ul style="list-style-type: none"> ▪ UVB filters for preventing skin damage and premature skin aging ▪ Excellent formulation flexibility ▪ Complexity reduction ▪ Fills the Gap in UVA2 range |

Sustainability performance

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ High efficiency at low concentration ▪ Reliable and long-lasting protection ▪ Efficient shielding against UV radiation for preventing skin damage ▪ Designed for use in water phase ▪ Has boosting effect with oil soluble UV filters | <ul style="list-style-type: none"> ▪ Cold processable ▪ Best choice for EcoSun Pass ▪ Does not contain preservative ▪ Helps to prevent long term skin damage ▪ Application in all market segments incl. sensitive skin and kids |
|---|--|



Highest SPF formulation based only on particulated UV filter... now possible

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EMO, Texapon[®] N 70 X EcoBalanced

Product information

Application	Rinse-off
Customer industry	Personal Care
Market	Europe
Region	Europe (only sold in EU)

Differentiation potential

- | | |
|--------------------------|--|
| Rationale | ▪ Significantly reduced CO ₂ emissions compared to standard grade |
| Technical benefit | ▪ Identical quality & performance compared to standard grade |

Sustainability performance

- Significantly reduced CO₂ emissions
- Drives the use of renewable resources
- Drop-in solution: Identical quality & performance
- Independently certified (REDcert2) and audited (TÜV Nord)



Quantifiably improved CO₂ footprint without compromising on performance

One pager – Pioneer

EMO, Dehyton[®] PK 45 X EcoBalanced

Product information

Application	Rinse-off
Customer industry	Personal Care
Market	Europe
Region	Europe (only sold in EU)

Differentiation potential

- | | |
|--------------------------|--|
| Rationale | ▪ Significantly reduced CO ₂ emissions compared to standard grade |
| Technical benefit | ▪ Identical quality & performance compared to standard grade |

Sustainability performance

- Significantly reduced CO₂ emissions
- Drop-in solution: Identical quality & performance
- Drives the use of renewable resources
- Independently certified (REDcert2) and audited (TÜV Nord)

Quantifiably improved CO₂ footprint without compromising on performance



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EMO, SFA range Surfactants

Product information

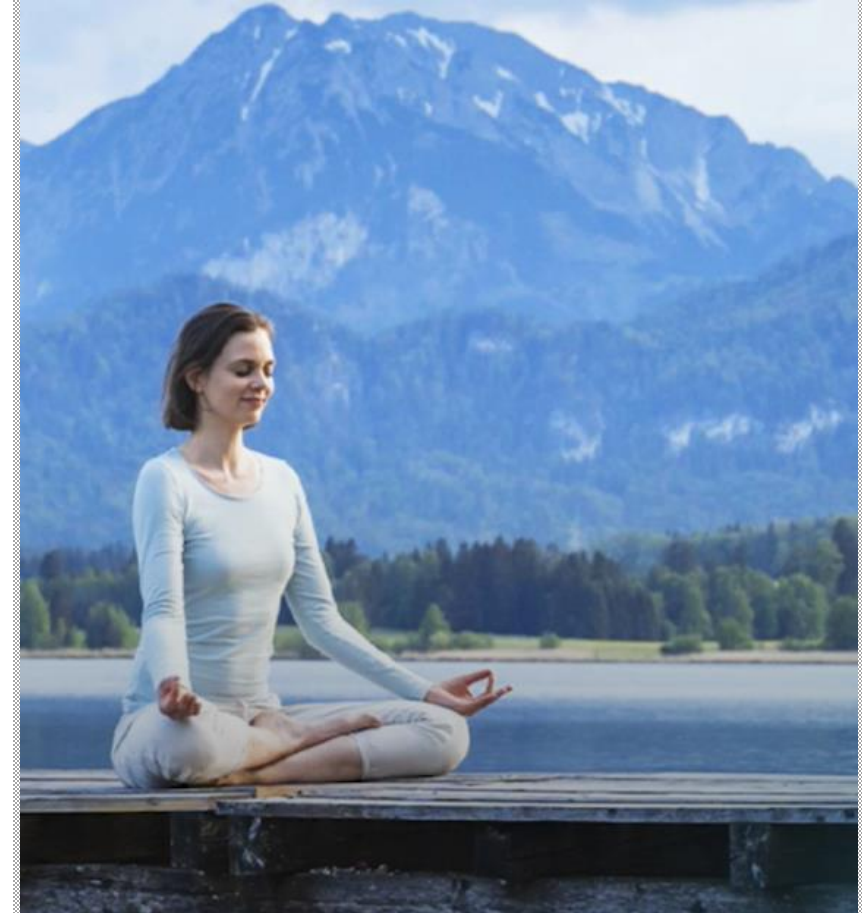
Application	Hair & Body cleansing (Rinse-off products)
Customer industry	Personal Care
Market	Natural cosmetics, mild cleansing, e.g. baby
Region	Global

Differentiation potential

Rationale	<ul style="list-style-type: none"> Renewable based product Based on certified sustainable feedstock
Technical benefit	<ul style="list-style-type: none"> Improves hair conditioning, foam and sensory Thickens without polymers Digital formulation service Different cold-processable formats

Sustainability performance

- High natural origin content > 99% (according to ISO 16128)
- RSPO mass balance-certified sustainable
- Readily biodegradable
- Low ecotoxicity
- Supports solutions not based on EO
- Suitable for zero-waste solid products
- Suitable for formulations with COSMOS label, even in effective blend with betaine
- Suitable for formulations with Natrue label
- Suitable for Safer Choice (US EPA)



Finally... Mild and natural is not a contradiction!

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EMO, RSPO MB Range, Responsible Sourcing

Product information	
Application	Surfactant, emulsifier and emollient related
Customer industry	Home & Personal Care, industrial formulators
Market	Cosmetics, detergents and cleaners industry
Region	Global

Differentiation potential	
Rationale	<ul style="list-style-type: none"> ▪ Certified by 3rd party ensuring sustainable palm oil production and traded ▪ Transparent value chain, traceable back to oil mill level
Technical benefit	<ul style="list-style-type: none"> ▪ Palm (kernel) oil delivers the necessary C-chain for home & personal care ingredients

Sustainability performance	
<ul style="list-style-type: none"> ▪ Palm is the most resources efficient oil crop ▪ Bio-based, reduces product carbon footprint ▪ RSPO-certified production of palm kernel oil shows around 36% lower global warming impact than non-certified production¹ 	<ul style="list-style-type: none"> ▪ Renewable resources that enhances circular economy (close the loop) ▪ RSPO is considered as a standardized implementation of a strong No Deforestation, No Peat, No Exploitation (NDPE) policy



Solutions that make your products love sustainably sourced renewable

¹ Schmidt and De Rosa (2020) Certified palm oil reduces greenhouse gas emissions compared to non-certified. J Cle Prod 277 (2020).

One pager – Pioneer

EMO, Lanette® O

Product information

Application	Consistency factor for all kind of O/W emulsions
Customer industry	Personal Care
Market	Cosmetics, hair-, skin-, sun- and baby-care products
Region	Global

Differentiation potential

Rationale	<ul style="list-style-type: none"> ▪ RSPO certified ▪ Wholly renewable-based
Technical benefit	<ul style="list-style-type: none"> ▪ Readily biodegradable ▪ Good rheology modifier and water resistance polymer. ▪ An excellent viscosity regulator in cosmetic oil-in-water emulsions

Sustainability performance

- Bio-based, reduces product carbon footprint
- 3rd party certified value chain ensures sourcing transparency
- Compliance to various standard such as COSMOS, EU-Ecolabel, Natrue, Nordic Swan Ecolabel, etc
- Renewable resources that enhances circular economy (close the loop)
- RSPO is considered as a standardized implementation of a strong No Deforestation, No Peat, No Exploitation (NDPE) policy



Consistency Factors that contribute to sustainable cultivation of palm (kernel) oil



We create chemistry