

Personal Care

**AAK**

enhancing  
the power  
of nature



## **Lipex SheaLight™**

Unique, eco-designed emollient ester for light, silky soft feel in skin, sun and hair care products

emollients



# Lipex SheaLight™



Lipex SheaLight is a shea butter based ester that combines high functionality in personal care formulations with light feel and a good safety and sustainability profile. This makes it a good starting point for creating lighter, sustainable formulations for body lotions and facial care products as well as numerous applications in hair care.

### Sustainable shea butter ester with light skin feel

Lipex SheaLight has unique sensory properties compared to other shea butter based ingredients. In an evaluation by a trained sensory panel, Lipex SheaLight was found to be non-greasy and more powdery compared to reference emollients. The results confirm a desired sensory profile for modern skin care creams and lotions, extending the use of shea butter into new applications.

Lipex SheaLight has a very low viscosity of 6 cP at 40 °C (49 cP for liquid shea butter, 19 cP for shea butter oleyl esters), enabling the formulation of lotions with easy application, and even sprayable emulsions. This also makes it possible to create any desired texture by combining with emollients having other sensory characteristics.

The unique fatty acid composition of shea butter is reflected in the melting and solidification behaviour of Lipex SheaLight. The melting point is near 18 °C due to the content of stearic acid esters, making it suitable also for cold processed creams and lotions, as well as for liquid, transparent cosmetic oils.

Lipex SheaLight is made using shea butter and ethanol from renewable sources, environmentally acceptable catalysts and processes that require less energy input – all to minimise environmental impact. We call it AAK eco-design.

### Light emollient for creams and lotions

Lipex SheaLight is an ideal emollient for any type of body lotion, especially if combined with moisturising components such as Lipex Shea or Lipex SheaSoft. It combines well with different types of actives for facial care creams and serums, making it easy to formulate products for sensitive and ageing skin. Lipex SheaLight is a very good solubiliser for our bioactive lipids, Lipex SheaTris and Lipex Collect. It can be used alone or in combination with other esters, vegetable oils, silicone oils and synthetic emollients

when formulating everyday skin care products. It is also a good base for sustainable cosmetic formulations where its light skin feel can improve aesthetics. Typical use concentrations range from 5 to 20% in oil-in-water emulsions. The low viscosity, high polarity and good solubilising properties of Lipex SheaLight also make it a good base for make-up removal and emulsion type facial cleansers. In such cases, a more moisturising formulation is obtained by combining shea butter esters with liquid shea butter or other substantive emollient.

### Lipex SheaLight in hair and body oils

The liquid character and low viscosity of Lipex SheaLight make it a good ingredient for hair and body oils.

Lipex SheaLight is miscible with other transparent and translucent emollients such as esters, vegetable oils and synthetic oils for creating clear formulations. It is also partially miscible with low viscosity dimethicones and completely compatible with volatile cyclomethicones. Lipex SheaLight is miscible with ethyl alcohol (min 95%) in free proportions as well.

Lipex SheaLight can be used in body oils to reduce the viscosity and drag of higher viscosity vegetable oils. It combines well with liquid shea butter (Lipex 205) and stable canola oil (Lipex Bassol C) to create a base for massage and bath oils, where Lipex SheaLight increases the spreadability and enhances the light, satin skin feel of the formulation.

Hair oils and anhydrous hair serums can be formulated using combinations of volatile emollients like silicones or hydrocarbons and Lipex SheaLight. If more substantive and longer lasting hair treatments are desired, Lipex SheaLight can be used in combination with other esters or caprylic/capric triglycerides. Low levels of natural oils can also be added, either for marketing attractiveness or function. Oils rich in vitamin E (Lipex PreAct) or even lipophilic bioactives (Lipex SheaTris) can be used in this type of applications.

### Lipex SheaLight in cleansing applications

Lipex SheaLight has good solubilising properties for sebum and make-up. It can readily be formulated into either anhydrous cleansing oils or oil-in-water cleansing milks and lotions. Formulations based on Lipex SheaLight can cleanse impurities of the skin as well as solubilise make-up products, including waterproof products.

Used in this way, Lipex SheaLight leaves only limited residue but softens the skin, resulting in a pleasantly dry after feel.

### Lipex SheaLight in sun care applications

Lipex SheaLight has also been tested in formulating sunscreens. Although being unsaturated, it has good oxidative stability, even when exposed to UV radiation. It has documented absence of phototoxicity and is a safe and versatile ingredient for all types of sunscreens.

As shown in the table on the next page, Lipex SheaLight has good solubilising capacity for solid UV screens.

This makes it possible to formulate high SPF and low-viscous lotions and sunscreen oils, including sprayable products.

Lipex SheaLight is especially well suited for use with inorganic UV blockers based on surface treated titanium dioxide or zinc oxide. It will produce lower viscosity dispersions with most common UV screens compared to other commonly used carrier technologies.

Thanks to Lipex SheaLight's good solubilisation capacity for organic UV screens and good dispersing capacity for inorganic pigments, formulations with high SPF and appreciated aesthetics can be formulated. Formulations using Lipex SheaLight can provide good UV protection combined with low oiliness and greasiness, yet possibly lower viscosity and better, uniform spreadability.

### Lipex SheaLight in shampoos and conditioners

A shampoo or conditioner made with Lipex SheaLight can work wonders for people looking to treat dry hair. Its low

viscosity and high polarity will ensure good wetting of hair fibre and leave a thin moisturising film that will not weigh down the hair. Good lubricity and spreadability also help to make the hair softer and more lustrous.

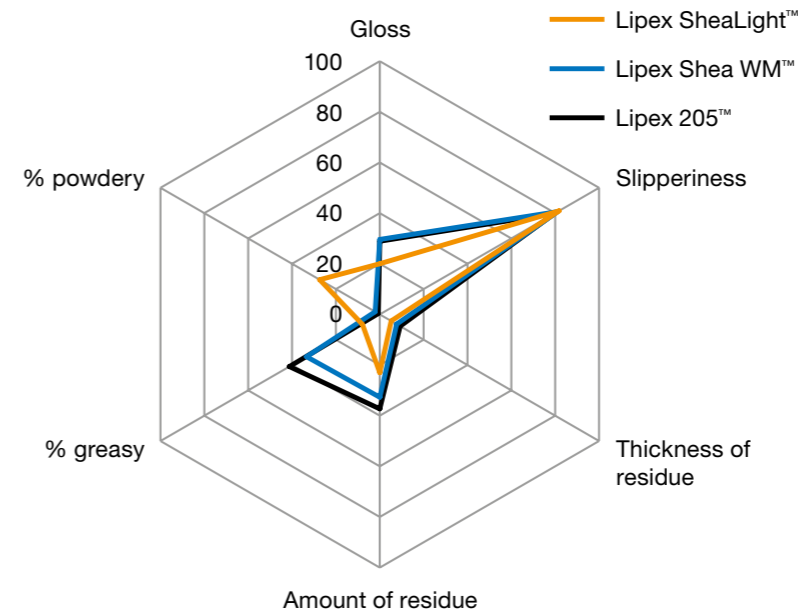
In rinse-off applications, high biodegradability is a must. Lipex SheaLight is readily biodegradable and does not accumulate in the environment. By combining with readily biodegradable surfactants it is easy to produce environmentally safe shampoos and conditioners.

Lipex SheaLight is also a good alternative to linear, low molecular silicones used in conditioners and shampoos. It offers good properties in both wet and dry hair, with no build-up effect.

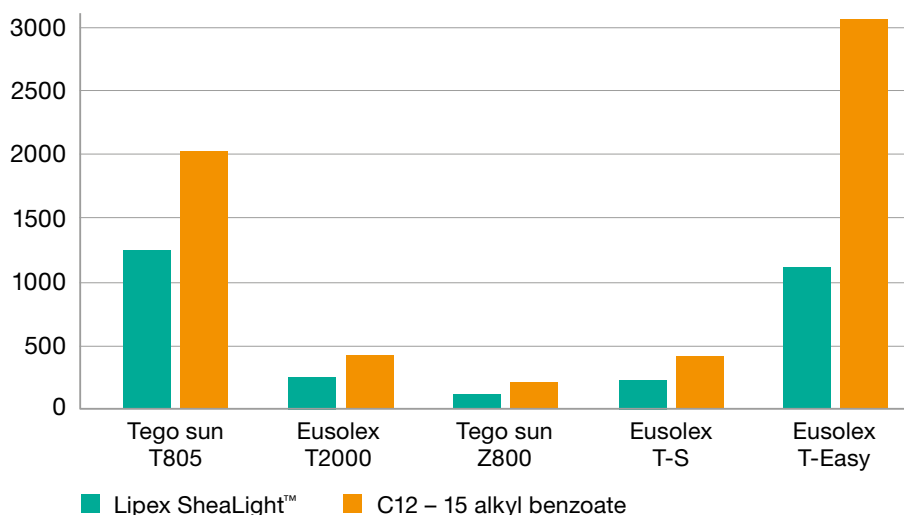
Lipex SheaLight is easy to incorporate in shampoos and rinse-off conditioners, even without the use of auxiliary emulsifiers. It can also be used as a solubiliser for actives that can be difficult to incorporate in normal shampoo and conditioner systems.

## Lipex SheaLight™ impact on different skin feel

Sensory properties: afterfeel @ 20 minutes



### Comparison of different carriers and pigments at high concentration (40%)



- ◆ shea ester with light, silky soft feel
- ◆ great sustainability profile and long-lasting stability
- ◆ low viscosity, high polarity
- ◆ good solubilising properties for organic UV filters and lipophilic actives
- ◆ gives low viscosity pigment dispersions at high particle load
- ◆ effectively improves aesthetics of sunscreens

### Solubility of solid UV screens in Lipex SheaLight™

INCI Name	INN/USAN	Solubility ( weight-%)
Bis-ethylhexyloxyphenol-methoxyphenyl triazine (BEMT)	Bemotrizinol	7
Butyl methoxydibenzoyl-methane (BMBM)	Avobenzone	11
4-Methylbenzylidene camphor	–	26
Benzophenone -3	–	13
Ethylhexyl triazone (EHT)	Octyltriazone	7

### Application advice – Lipex SheaLight™

Application	Use level	Main function
Low oil phase emulsions and serums	1-5%	Emollient
Face creams and lotions	2-10%	Emollient, detacking agent
Body lotions, body creams	2-15%	Emollient, detacking agent
Emulsion make-up cleansers	8-20%	Solubiliser, emollient
Anhydrous butters, face and body oil treatments	5-70%	Emollient, detacking agent, solvent
Foundations, tinted creams	5-15%	Wetting agent, binder, emollient
Eye shadows, pressed powders	5-10%	Wetting agent, binder, emollient
Sun care lotions and creams, including daily care creams	5-20%	Solvent and dispersant for UV filters, emollient
Sun care and after sun oils	20-80%	Solvent for UV filters, emollient
Hair care shampoos	1-2%	Emollient, detangling agent
Hair care conditioners, scalp treatments	1-5%	Emollient, detangling agent
Hair oils	1-50%	Emollient, detangling agent

<b>Product name</b>	Lipex SheaLight™
<b>INCI name</b>	Shea Butter Ethyl Esters
<b>Physical form 20 °C</b>	Clear liquid
<b>Regulatory status</b>	Complies to (EC) No 1223/2009 Complies to Chinese Cosmetic and Chemical regulation REACH registration number: 01-2120057100-75-0000
<b>Approvals</b>	COSMOS, NPA

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