

Application Sheet

Luxscreen® is a range of UV-dispersions based on photostable lipids and mineral UV-filters encapsulated in a polymer structure. The Luxscreen® dispersions are developed based on excluding volume technology (EVT). In the products the Titanium Dioxide or Zinc Oxide has been combined with the polymer to create a composite material. By combining the mineral UV-filters with a material, which has significantly lower density than the mineral UV-filters by themselves, the density of the mineral UV-filters can be lowered, and more stable dispersions can be made.

Trade Name	INCI Name
Luxscreen® TR 14 AF 50	Titanium Dioxide (and) Hydrogenated Polydecene (and) Styrene/Acrylates Copolymer
Luxscreen® TR 22 AF 50	Titanium Dioxide (and) Hydrogenated Polydecene (and) Styrene/Acrylates Copolymer
Luxscreen® TR 35 AF 50	Titanium Dioxide (and) Hydrogenated Polydecene (and) Styrene/Acrylates Copolymer
Luxscreen® Zn 40 AF 50	Zinc Oxide (and) Hydrogenated Polydecene (and) Styrene/Acrylates Copolymer

Standard grades of Luxscreen® dispersions are based on Hydrogenated Polydecene, but they can be custom tailored upon request.

Product	UV-filter	Concentration	Crystal Size	Properties
Luxscreen® TR 14 AF 50	TiO ₂ , rutile	50%	14 nm	High SPF, low UVA Transparent application
Luxscreen® TR 22 AF 50	TiO ₂ , rutile	50%	22 nm	High SPF, medium UVA Slightly opaque application
Luxscreen® TR 35 AF 50	TiO ₂ , rutile	50%	35 nm	Medium SPF, high UVA Opaque application
Luxscreen® Zn 40 AF 50	ZnO	50%	40 nm	Low SPF, high UVA Transparent application

Benefits

- high SPF
- high UVA/UVB-protection
- high stability
- high water resistance
- soft skin feel without tackiness
- no skin penetration

Properties

- photostable
- inert
- heat stable
- hydrophobic
- high concentration of solids
- compatible with organic UV-filters
- pumpable



Application Areas

Skin Care

Luxscreen® dispersions can be used in anti-age products as the range includes dispersions, which provide high UVA-protection. Luxscreens® have a soft skin feel. In addition to transparent formulations, the range also includes dispersions suitable for formulating products with a natural looking whitening effect, while providing high UV-protection.

Sun Care

Luxscreen® dispersions are created especially for sun care products in which high stability and water resistance is required. The Luxscreen® dispersion with 14 nm TiO₂ crystals provides high SPF with low UVA-protection and transparent application. The Luxscreen® dispersion with 22 nm TiO₂ crystals offers high SPF and high UVA-protection with a slight whitening effect. The Luxscreen® dispersion with 35 nm TiO₂ crystals provides excellent UVA-protection, but only moderate SPF with fairly opaque application. The Luxscreen® dispersion with Zinc Oxide provides UVA-protection with moderate SPF and transparent application.

Colour Care

In colour care applications Luxscreen® dispersions can be used in lipsticks and lip glosses to provide SPF and high UVA-protection. Luxscreen® dispersion with 22 nm TiO₂ crystals offers UV-protection without interfering with colour shading. Luxscreen® dispersion with 35 nm TiO₂ crystals offers also UV-protection, but it also brings whiteness to the formulation.

Formulating

Luxscreen® dispersions can be used in all types of emulsions and in anhydrous systems.

Emulsions

Luxscreen® dispersions are added into emulsions after the emulsification process. Before the addition of Luxscreen® dispersions, the emulsion needs to be cooled down to below 40°C. The emulsion with Luxscreen® dispersions should be homogenized so that the Luxscreen® dispersions will disperse into the emulsion and migrate further into the emulsion structure.

Typical use level: 5-15%

Anhydrous Systems

In anhydrous systems, the ingredients can be mixed together in hot or cold processes.

Typical use level: 5-15%

We offer SPF in vitro testing free of charge for our customers when formulating with Luxscreen® products.

Packaging: 25kg and 50kg open-head drums