

Creasperse®

UV-Dispersions for Safe Suncare



Creasperse®

Creasperse® range of emulsion identical dispersions present a culmination of technical know-how and high-tech equipment. They are a user-friendly choice, that allows you to concentrate on the most essentials – efficient sun care.

Formulating with conventional mineral UV-filters requires demanding preparations. Optimisation of main components; pigment, vehicle and dispersing agent, may present a time consuming obstacle.

The Creasperse® range is designed to be materials, that enable sun care formulations for different purposes with precision results and characteristics. We offer products for high SPF, broad UV-spectrum protection, transparent formulations, anti-age requirements, natural like foundations and for instant whitening, so appreciated in the Far-East market place.

Photostability – Anti-age and Safety

When the Creasperse® range of UV-dispersions was developed, the most important criteria was to select the raw materials with the highest photostability. They include the mineral UV-pigments as well as the lipid phase, where powder form pigments are dispersed in. These selected photo stable raw materials induce no or very little reactive oxygen species (ROS), which react with DNA, proteins, fatty acids and saccharides, causing oxidative damage. Such injuries result in a number of harmful effects: erythema, edema, photo ageing and skin cancer.

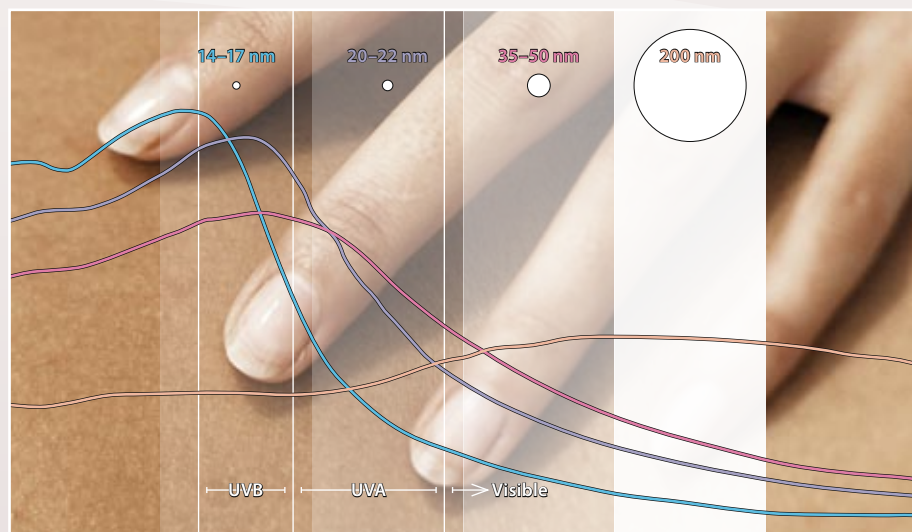
Only rutile type TiO_2 -crystals are used in the Creasperse® range, because anatase type TiO_2 is very photo reactive. As the vehicle we use photo stable lipids, such as: Hydrogenated Polyisobutenes, Hydrogenated Polydecenes, Silicones and other Hydrogenated Oils and Esters of customers choice.

High Performance Dispersion –

Maximum SPF

The key factors in dispersing pigments are the optimisation of the ratio of pigment, vehicle and dispersion agent, as well as the technology used in the grinding process. Creasperse® range is a realisation of professional cosmetic engineering in coherence with many years of experience and inventiveness.

Creasperse® products offer a maximised level of SPF in terms of the quantity of UV-filter. Each agglomerate is carefully grinded to the primary crystals, every one of them imparting UV-protection around its environment forming an even network on the skin and hence an even UV-protection. The stable and well-balanced Creasperse® range of UV-dispersions offer a harmonised mixture of safety, functionality and performance, respecting regulatory aspects worldwide.



The different crystal sizes have an impact on SPF as well as the product transparency.

Formulating with Creasperse® Products

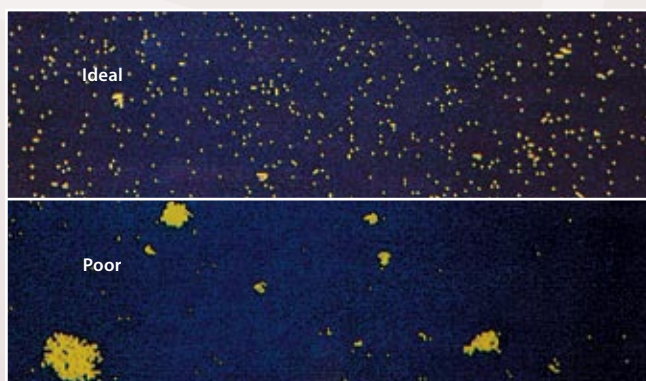
By carefully monitoring the maximum UV-absorption area of each Creasperse® product, you can formulate a sun care product with protection against targeted UV-areas or create a full UV-spectrum protection. Creasperse® products with small crystal sizes protect from UVB-rays, while the Creasperse® products with bigger crystal sizes offer an excellent UVA- and anti-age protection. The small crystal size products appear transparent on the skin, while bigger crystal sizes impart whitening creating an “Instant Whitening” effect.

Creasperse® products are coded including information based on the type of physical UV-filter, as well as its crystal size. T means Titanium Dioxide, Zn means Zinc Oxide, Fe means Iron Oxide. R stands for rutile, and the number indicates the primary crystal size of the physical filter, like 14 is 14 nm. Then the vehicle is explained, like AF is Alphaflow® (INCI: Hydrogenated Polydecene). The number in the end describes the percentage of the physical UV-filter in the dispersion.

Creasperse® TR 14 AF 50 has the smallest primary crystal size of Titanium Dioxide, and hence offers maximum UVB protection, with very transparent appearance. Mostly used in high SPF products, up to 25%.

Creasperse® TR 22 AF 65 is based on 22 nm Titanium Dioxide, offering high UVA protection with slightly whitish application and still high SPF. Often used in skin care products with the claim UVA-protection and/or anti-age, but is also used in sun care formulations, where UVA-protection is needed. Use level up to 16%.

	UV-Filter	Concentration	Crystal Size	Properties	Applications		
					Sun Care	Skin Care	Colour Care
Creasperse® TR 14 AF 50	TiO ₂ , rutile	50%	14 nm	Transparent application, high SPF, low UVA	•	•	
Creasperse® TR 22 AF 65	TiO ₂ , rutile	65%	22 nm	Slightly whitish on application, high SPF, medium UVA	•	•	•
Creasperse® TR 35 AF 65	TiO ₂ , rutile	65%	35 nm	Whitening on application, medium SPF, high UVA	•	•	•
Creasperse® Zn 14 AF 50	ZnO	50%	70 nm	Transparent application, low SPF, high UVA	•	•	
Creasperse® Fe 3 AF 30	Fe ₂ O ₃	30%	3 nm	Dark brown application, SPF booster, skin toner	•	•	



Photoreactive TiO₂ becomes dark brown in UV-light in less than 10 minutes



Photostable TiO₂ stays white showing no use-up of the antioxidant

Creasperse® dispersions present ideal situation, where the efficacy of UV-screening capacity is maximised.

Photostability of nanofine TiO₂ can be detected by Propyl Gallate test. Colour change indicates the photoreactivity problem.

Creasperse®

Creasperse® TR 35 AF 65 with 35 nm Titanium Dioxide offers maximum UVA protection. This product is designed for the use as “Instant Whitening”. It is used in skin whitening ranges to offer an instant whitening effect, as the application is white, but yet more transparent than pigmentary Titanium Dioxide on the skin. It is ideal for day products, which protect the skin from melanin build-up and offers maximum UVA-protection against skin aging. Use level up to 10%.

The product is also ideal for foundations with natural look. Creasperse® TR 35 AF65 can replace pigmentary Titanium Dioxide completely, offering high anti-age protection with lower coverage than the white pigment, imparting a natural look, instead of a mask-like appearance. Use level up to 10%.

Creasperse® Zn 70 AF 50 is based on 70 nm Zinc Oxide, which is the Category I sunscreen in the USA. It offers very transparent application with high UVA-protection. This product is used in sun care and skin care formulations for high UVA-protection. However, it does not give very high SPF values and is often used together with organic UV-filters. It is not recommended to use this product together with dispersed nanofine Titanium Dioxides, as they can counter act, causing instability of emulsions. Also has to be noted, that nanofine Zinc Oxide is soluble below pH 6, and hence the pH has to be kept at all times during the formulating above this level.

Creasperse® Fe 3 AF 30 is a dispersion of superfine, 3 nm, Iron Oxide in Hydrogenated Polydecene. This product offers transparent, tanned-like appearance with very low concentrations. It is ideal to cut the whitening effect of nanofine Titanium Dioxide or it can be used in formulations, which offer “Instant Tanning” effect, such as leg make-up formulations. Use level up to 1%.

Technical Support

Free SPF In Vitro Measurements

Creasperse® range is enough to use as a fundamental building block for sun care based only on physical UV-filters. Each product also combines well with organic UV-filters, if their use is necessary. Our formulation library has a broad range of sun and skin care products at your disposal. We offer guidelines or “ready to use” formulations with different SPF levels, UVA/UVB ratios and different textures.

Our technical competence is backed up by a well-equipped laboratory, which carries apparatus covering testing, analyses and performance control. We offer free SPF in vitro measurements for our customers when using Creasperse® products. We can also carry Zeta-potential measurements or TEM studies in our laboratories. We can help with regulatory aspects worldwide, as well.

Creasperse® Product Range

Trade Name	INCI Name
Creasperse® TR 14 AF 50	Titanium Dioxide (and) Hydroxystearic Acid (and) Hydrogenated Polydecene
Creasperse® TR 22 AF 65	Titanium Dioxide (and) Hydroxystearic Acid (and) Hydrogenated Polydecene
Creasperse® TR 35 AF 65	Titanium Dioxide (and) Hydroxystearic Acid (and) Hydrogenated Polydecene
Creasperse® Zn 70 AF 50	Zinc Oxide (and) Hydroxystearic Acid (and) Hydrogenated Polydecene
Creasperse® Fe 3 AF 30	Iron Oxide (and) Hydroxystearic Acid (and) Hydrogenated Polydecene

These are our standard Creasperse®-products, we make also custom tailored products identical for your emulsions.