

Application Sheet

Micapoly® UV is a range of composite materials based on muscovite mica and physical UV-filters. Micapoly® UV Crystals are platelet shaped particles with a mica matrix and a double layer of nanofine Titanium Dioxide or Zinc Oxide, which are sealed on the mica surfaces with a polymer.

As Micapoly® UV Crystals are platelet shaped, they adhere well on the skin and provide long lasting UV-protection. The particle size of Micapoly® UV Crystals is around 20 microns. Micapoly® UV Crystals are suitable for colour care applications and powdery types of sunscreen products for providing UV-protection.

The type of UV-protection achieved with Micapoly® UV Crystals depends on which type of UV-filter is used in it. Micapoly® UV Crystal TR 22 contains rutile type Titanium Dioxide with a crystal size of 22 nanometers. This provides high SPF and medium UVA-protection. Micapoly® UV Crystal TR 35 also contains rutile type Titanium Dioxide, but with a crystal size of 35 nanometers, which provides medium SPF and high UVA-protection. Micapoly® UV Crystal Zn 40 contains Zinc Oxide with a crystal size of 40 nanometers. This provides low SPF with high UVA-protection.

Trade Name	INCI Name
Micapoly® UV Crystal TR 22	Mica (and) Titanium Dioxide (and) Cyclomethicone (and) Dimethicone (and) Isododecane (and) Ethylene/VA Copolymer
Micapoly® UV Crystal TR 35	Mica (and) Titanium Dioxide (and) Cyclomethicone (and) Dimethicone (and) Isododecane (and) Ethylene/VA Copolymer
Micapoly® UV Crystal Zn 40	Mica (and) Zinc Oxide (and) Cyclomethicone (and) Dimethicone (and) Isododecane (and) Ethylene/VA Copolymer

Micapoly® UV Crystals are available with custom tailored surface treatments upon request.

Benefits

- efficient UV-protection
- good skin adherence
- sheer application
- matte finish
- photostable
- easy to formulate with

Properties

- platelet shape
- composite structure
- 20 micron size
- physical UV-filter
- heat stable



Application Areas

Sun Care

Micapoly® UV Crystals are ideal for powdery types of sunscreens as they have good skin adherence, and as they are completely photostable. Micapoly® UV Crystals have a double layer of physical UV-filters as the mica platelets are covered with the filters on both sides. Mica also reflects IR-radiation, which can be an interesting addition to sun care formulations.

Colour Care

The main applications for Micapoly® UV Crystals are powder type colour cosmetics, especially pressed and loose powders for the face. They can also be used in foundations as they will give long lasting UV-protection. As Micapoly® UV Crystals are photostable, they do not generate UV-light induced formation of free radicals within the formulation.

Formulating

Micapoly® UV Crystals are easy to formulate with. Due to their surface characteristics, they disperse easily. Micapoly® UV Crystals do not need high shear mixing, but if it is needed for any other ingredients, it won't harm the Micapoly® UV Crystals.

Foundations

Micapoly® UVs are suitable for foundations, but not for emulsions without pigments, as Micapoly® UVs tend to appear greyish when mixed into emulsions. They should be dispersed into the oil phase. Micapoly® UVs are not heat sensitive and they tolerate homogenizing well.

Typical use level: 5-15%

Powder Applications

Micapoly® UVs should be added to the powder base before colour shading and the addition of binders. Micapoly® UV products do not need to be grinded; they can be added and mixed in the formulation directly. If grinding is needed for other ingredients, this is not harmful for the Micapoly® UVs.

Typical use level: 5-15%

Packaging: 25 kg sealed aluminium bag in cardboard box