ULTRA-EASILY DISPERSIBLE MICRO TITANIUM DIOXIDE

MT-100SC

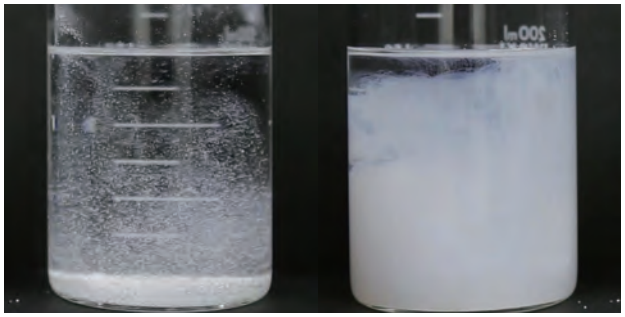
This product is a 15 nm-sized Micro Titanium Dioxide whose dispersibility in oil has been dramatically improved by mixing C12-15 Alkyl Benzoate and Sorbitan Sesquiisostearate. It can be uniformly dispersed in various oils regardless of the dispersing equipment, and can be easily incorporated into the internal oil phase of O/W formulations.

Grade	Primary Particle Size	INCI	EU※1	China※2	US※3	Natural Origin Index
MT-100SC	15 nm	TITANIUM DIOXIDE ALUMINUM HYDROXIDE STEARIC ACID C12-15 ALKYL BENZOATE SORBITAN SESQUIISOSTEARATE	○	○	—	0.96

※1：Regulation (EC) No 1223/2009
※2：IECIC Registration Status
※3：Usability in U.S. OTC Sunscreens

Comparison of Dispersibility

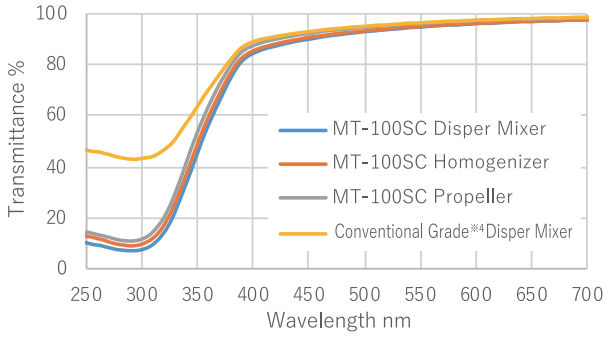
Conventional Grade※4　　MT-100SC



Sample was added to the hydrocarbon oil to achieve a solids content of 0.2 %, and left to stand for 10 seconds without stirring.

※4 Conventional Grade：Titanium Dioxide(15 nm) treated with Aluminum Hydroxide and Stearic Acid

Differences in Dispersion State due to Dispersing Equipment



Media	: Hydrocarbon Oil
Dosage	: 7 %(as solid)
Dispersion Condition	: Disper mixser 500 rpm-10 min
Film Thickness	: 10 μm
Base	: Polypropylene Film
Measurement	: Spectrophotometer HITACHI U-4100

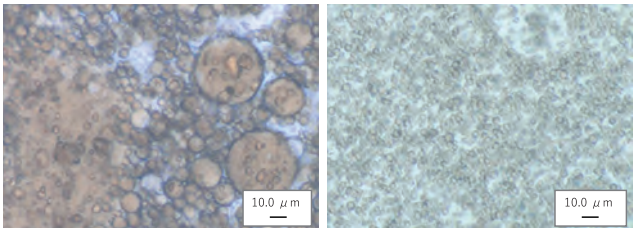
SPF/UVAPF *in vitro*

Dosage	3 %		5 %		10 %	
Grade	SPF	UVAPF	SPF	UVAPF	SPF	UVAPF
MT-100SC	10	5	16	5	35	6
Conventional※4 Grade	7	4	11	4	23	5

Formulation	: W/O Emulsion
Application Amount	: 1.3 mg/cm²
Base	: PMMA HD6
Measurement	: SPF Analyzer UV-2000S

Compatible with O/W Formulations

Conventional Grade※4　　MT-100SC



Emulsion Particles are Coalesced　　Good Emulsification State

Formulation	: O/W Gel
Dosage	: 10 %(as solid)
Magnification	: 1000 Times
Measurement	: Digital Microscope VHX-5000