

TiO₂ Oil Dispersion

Nano Grade
Non – Nano Grade



TiO₂ Dispersion

New in 2017

New in 2017

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	TPD40-AB	GR-TD50	TXD60-D5	TXD60-DM	TXD55-AQ	SFT85-AB	SFT85-CCTG	SFT85-CC	SFT85-AQ
Carrier	Alkyl Benzoate	Dicaprylyl Carbonate	Cyclopentasiloxane	Dimethicone	Water	Alkyl Benzoate	Caprylic Capric Triglyceride	Dicaprylyl Carbonate	WATER
Solid %	45%	50%	60%	60%	55%	60%	60%	60%	60%
Net TiO ₂ %	35%	38%	51%	51%	46%	48%	48%	48%	48%
TiO ₂ coating	Alumina	Alumina / Stearic Acid	Silica / Dimethicone	Silica / Dimethicone	Silica / Dimethicone	Silica/Triethoxycaprylylsilane	Silica / Jojoba Esters	Silica / Jojoba Esters	Silica/Triethoxycaprylylsilane
Dispersing agent	Polyhydroxy stearic acid	Polyglyceryl-3 Diisostearate	PEG-10 Dimethicone	PEG-10 Dimethicone	Polysorbate 60 & Oleth-10	Polyhydroxy stearic acid	Polyhydroxy stearic acid	Polyhydroxy stearic acid	Polysorbate 60 & Oleth-10
SPF/PFA Critical Wave Length	4.44 364nm					1.62 ≤ 3.0 377nm	1.58 ≤ 3.0 377nm	1.58 ≤ 3.0 377nm	1.62 ≤ 3.0 377nm
Alumina Free	-	-	☺	☺	☺	☺	☺	☺	☺
Remarks	The most Transparent, For O/W sun care	COSMOS grade	TX-85 used SCCS grade	TX-85 used SCCS grade	TX-85 used SCCS grade	T-80AS USED	T-80JJ USED COSMOS grade	T-80JJ USED COSMOS grade	T-80AS USED

Nano grade

Non Nano grade

TPD40-AB

The most transparent
 TiO_2 dispersion
in the world



Transparency

The most transparent
TiO₂ dispersion
in the world

TPD40-AB: C12-C15 Alkyl Benzoate & Titanium
dioxide & Aluminum Stearate & Polyhydroxystearic
Acid & Alumina

Nano

SUNJIN

Net TiO₂: 35%

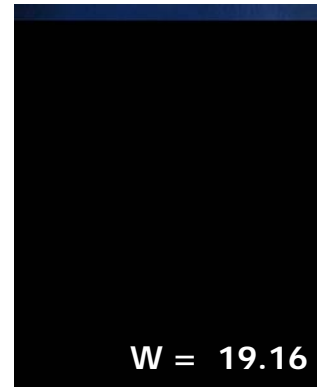


Dispersion "C": C12-C15 Alkyl Benzoate & Titanium
dioxide & Aluminum Stearate & Polyhydroxystearic
Acid & Alumina

Nano

Company "C"

Net TiO₂: 35%



W: White Index
Higher White index means
less transparency

Nano TiO₂ in Alkyl Benzoate

TPD40-AB provides better transparency on skin than any other grade of TiO₂ currently available

	TPD40-AB
Carrier	Alkyl Benzoate
Solid %	45%
Net TiO ₂ %	35%
TiO ₂ coating	Alumina
Dispersing agent	Polyhydroxy stearic acid
SPF/PFA Critical Wavelength	4.44 364nm
Draw Down White index	18.17
Alumina Free	-
Remarks	The most Transparent

Key Features

1. Nano TiO₂ dispersion with the best transparency
2. High SPF
3. Incorporated in oil phase to make O/W and W/O(W/S) formula
 - No need to have 2 different kinds of dispersions to make O/W or W/O
 - simple inventory management

High SPF by in vivo

Test Formula

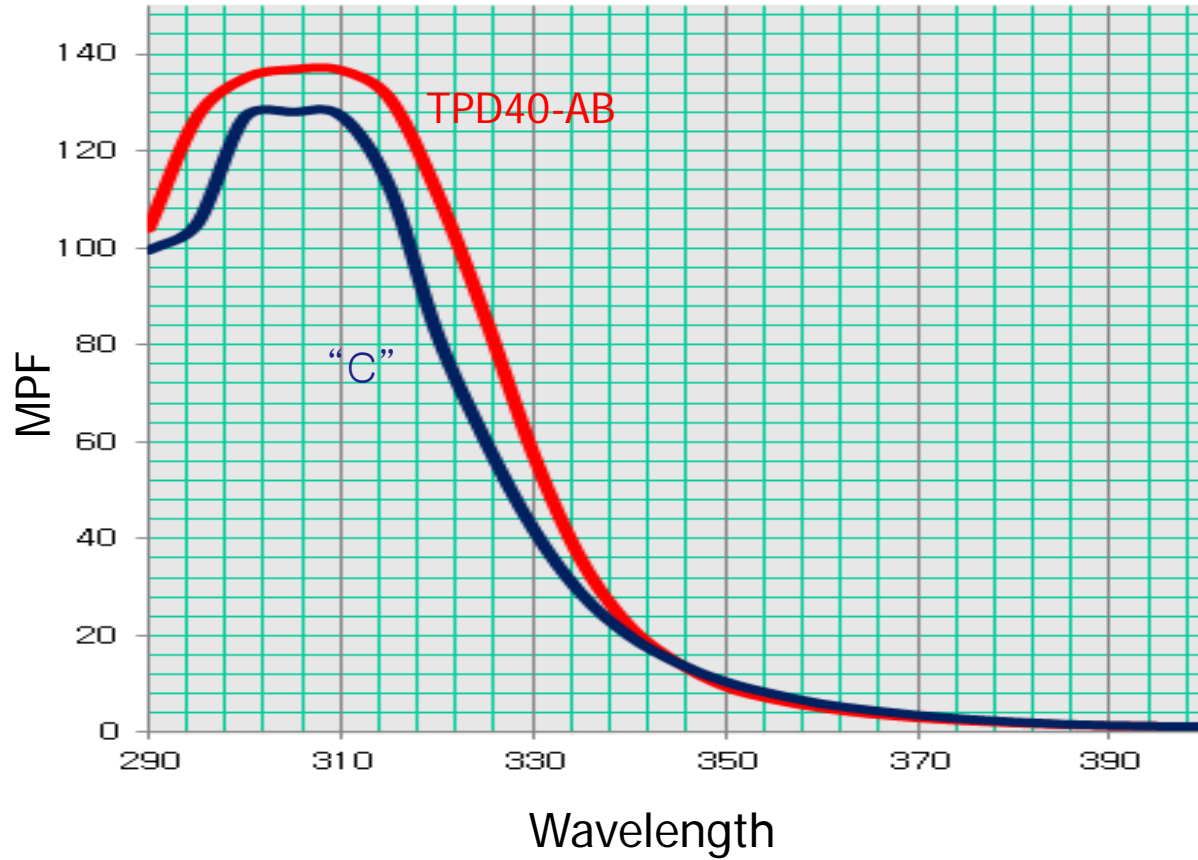
TPD40-AB 20% @ O/W sun cream

Part	Trade Name	%	%
A	D.I-Water	49.7	49.7
	P.G	4.0	4.0
	Carbopol 940 2%	8.0	8.0
B	Arlacel 60	0.5	0.5
	Tween 60	2.7	2.7
	Kalcohol 6870	1.0	1.0
	TCG-M	8.0	8.0
	Myristic Acid	2.5	2.5
	Arlacel 165	2.0	2.0
C	TPD40-AB	20.0	-
	Benchmark "C"	-	20.0
D	TEA	0.2	0.2
	Sepiplus 400	0.5	0.5
E	Phenoxyethanol	0.8	0.8
	Fragrance	0.15	0.15
In vivo SPF		19	16



Test Result	TPD40-AB	Benchmark "C"
in vivo SPF	19	16
in vitro SPF	15.23	10.95
in vitro UVA PF	3.9	3.6
SPF / UVA PF	=19/3.9 =4.87	=16/3.6 =4.44
C.W	368.5	363.3

High SPF by in vitro test



20% of Tested Products @ O/W sun cream

SFT-85AB

Do you want
Non Nano
but not necessarily
ECOCERT?



SFT-85AB, Nano Free

Used TiO₂ in making SFT-85AB is T80AS

So SFT-85AB inherits all of the virtues of T80 series

	SFT85-AB
Carrier	Alkyl Benzoate
Solid %	60%
Net TiO ₂ %	48%
TiO ₂ coating	Silica / Triethoxy caprylylsilane
Dispersing agent	Polyhydroxy stearic acid
Non-Nano	☺ T-80AS USED
EU UVA Protection	☺
SPF/PFA ≤3.0 C.W. ≥370nm	1.62 ≤ 3.0 377nm
ECOCERT	-
Alumina Free	☺

Non Nano TiO₂ dispersion in Alkyl Benzoate has 6 Benefits...

1. Non Nano
2. UVA/UVB < 3.0
Critical Wavelength > 370nm
3. UVB protection as good as 15nm TiO₂
4. UVA protection better than 40nm ZnO
5. No Alumina
6. Transparency

Tested Samples

T-80AS from SUNJIN
used to make SFT-85AB



SFT-85AB: Titanium dioxide & C12-C15 Alkyl Benzoate & Polyhydroxystearic Acid & Triethoxy caprylsilane & Silica

**Non Nano
No Alumina
SUNJIN**
Net TiO₂: 48%

Dispersion "X": Titanium dioxide & C12-C15 Alkyl Benzoate & Polyhydroxystearic Acid & Stearic Acid & Alumina

**Non Nano
Company "C"**
Net TiO₂: 48%

Dispersion "C": C12-C15 Alkyl Benzoate & Titanium dioxide & Aluminum Stearate & Polyhydroxystearic Acid & Alumina

**Nano
Company "C"**
Net TiO₂: 35%

Tested Formula & Test Result

20% of Tested Products
@ O/W sun cream

	Trade Name	%
A	D.I-Water	50.15
	P.G	4.0
	Carbopol 940 2%	8.0
B	Arlacel 60	0.5
	Tween 60	2.7
	Kalcohol 6870	1.0
	TCG-M	8.0
	Myristic Acid	2.5
	Arlacel 165	2.0
C	TEA	0.2
D	SFT85-AB vs. Dispersion X vs. Dispersion C	20.0
E	Phenoxyethanol	0.8
	Fragrance	0.15

Non Nano

Nano

Test Result	SFT85-AB	"X"	TPD40-AB	"C"
in vivo SPF	25	21	19	16
in vitro SPF	33.29	25.62	15.23	10.95
in vitro UVA PF	15.47	15.05	3.9	3.6
SPF / UVA PF	=25/15.57 =1.62	=21/15.05 =1.40	=19/3.9 =4.87	=16/3 =4.44
C.W	377	381	368.5	363.3

UVA/UVB < 3.0

Critical Wavelength >

370nm

SFT85-CC & SFT85-CCTG

Do you want
ECOCERT Sun Care
And...not oily
not sticky one?



ECOCERT & COSMOS Dispersion Overview



	SFT85-CCTG	SFT85-CC
Carrier	Caprylic Capric Triglyceride	Dicaprylyl Carbonate
Solid %	60%	60%
Net TiO ₂ %	48%	48%
TiO ₂ coating	Silica / Jojoba Esters	Silica / Jojoba Esters
Dispersing agent	Polyhydroxy stearic acid	Polyhydroxy stearic acid
Non-Nano	☺ T-80JJ USED	☺ T-80JJ USED
EU UVA Protection	☺	☺
SPF/PFA ≤3.0 C.W. ≥370nm	1.58 ≤ 3.0 377nm	1.58 ≤ 3.0 377nm
ECOCERT	☺	☺
Alumina Free	☺	☺

Cetiol-CC(Dicaprylyl Carbonate) is an innovative, fast spreading, dry emollient that can significantly improve the sensory performance of the final formulation, therefore often used as a silicone oil alternative. It smoothes the skin, leaving a velvety sensation, and is highly compatible with many different skin types. Its ability to dissolve crystalline UV filters and to disperse pigments makes it particularly suitable for sun care products

