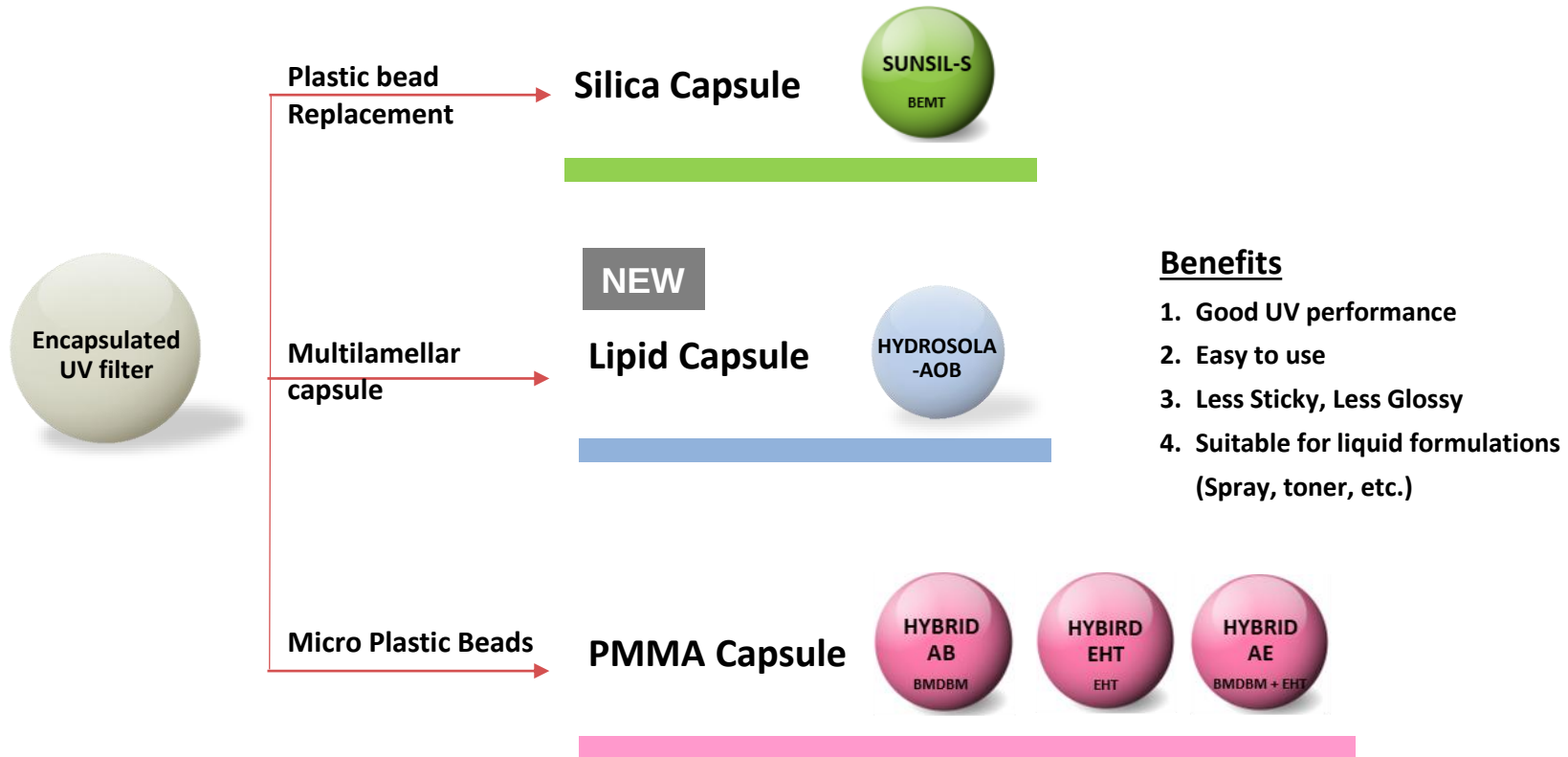


Encapsulation Type of UV Filter



UV Capsules

Silica Capsule

Product	INCI	Remarks
SUNSIL-AB	Silica, Butyl Methoxydibenzoylmethane	BMDBM 30%
SUNSIL-DHHB	Silica, Diethylamino Hydroxybenzoyl Hexyl Benzoate	DHHB 30%
SUNSIL-EHT	Silica, Ethylhexyl Triazone	EHT 30%
SUNSIL-BLP	Silica, Butyl Methoxydibenzoylmethane	BMDBM 30% Blue Light Protection
SUNSIL-S	Silica, Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	BEMT 30%

Lipid Capsule

Product	INCI	Remarks
HYDROSOLA-AOB	Water & Ethylhexyl Methoxycinnamate & Butyl Methoxydibenzoylmethane & Benzophenone-3 & Butylene Glycol & Phospholipids & Phenoxyethanol	OMC 25% BMDMB 16% Oxybenzone 10%

PMMA Capsule

Product	INCI	Remarks
HYBRID AB	Polymethyl Methacrylate, Butyl Methoxydibenzoylmethane	BMDBM 30%
HYBRID EHT	Polymethyl Methacrylate, Ethylhexyl Triazone	EHT 30%
HYBRID AE	Polymethyl Methacrylate, Butyl Methoxydibenzoylmethane, Ethylhexyl Triazone	BMDBM 30%, EHT 15%

Why SUNSIL-AB?



Microplastic free
Coral reef safe
Only UVA filter in US for
Broad spectrum

Benefits

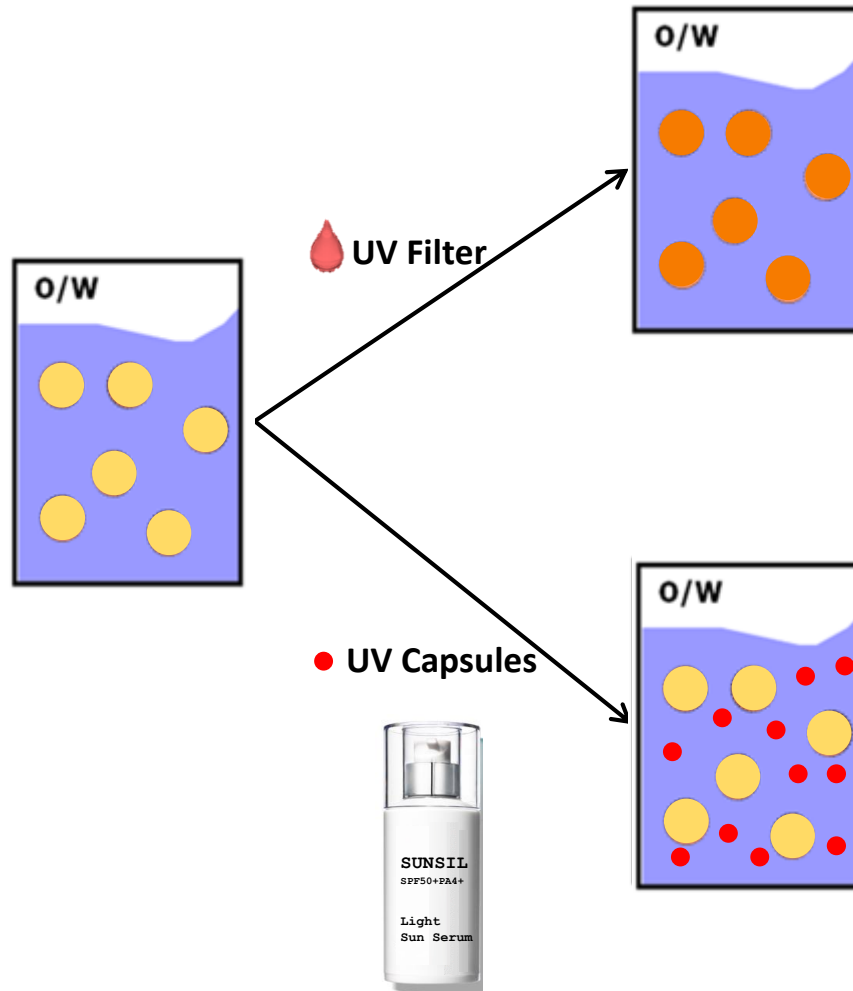
1. Sun serum, water dispersible
2. Better performance
3. Airy texture, Less glossy
4. Enhanced Formulation Stability

BMDBM: Butyl Methoxydibenzoylmethane
BEMT: Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine
EHT: Ethylhexyl Triazone
DHHB: Diethylamino Hydroxybenzoyl Hexyl Benzoate
BEMT, EHT not available in USA as of Jun 2024

Why UV Capsules?

UV Filter only

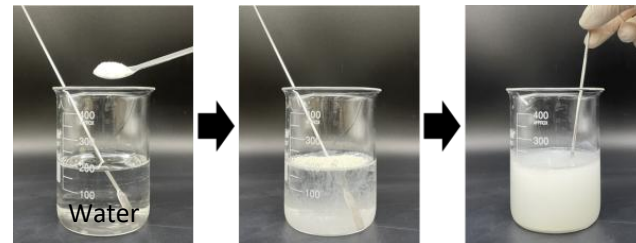
in oil phase: very tacky especially for high SPF when it contains high % of high molecular UV filters such as BEMT



UV Capsules, water dispersible, can be incorporated in the water phase

Benefits

- Better UV Performance
- Airy texture, Less Glossy
- Formulation Stability



Benefit 1-1: UV Performance

SPF50+, PA++++

Phase	Ingredients	INCI Name	#1	#2
A	D.I.WATER	Water	49.95	49.95
	Sepimax Zen	Polyacrylate Crosspolymer-6	0.25	0.25
	SEPINOV EMT-10	Hydroxyethyl Acrylate/Sodium Acryloyldimethyl Taurate Copolymer	0.20	0.20
B	Olivem 1000	Cetearyl Oliviate, Sorbitan Oliviate	1.20	1.20
	SUNBEMT-S	Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	5.00	2.00
	PARSOL 340	Octocrylene	2.00	2.00
	PARSOL EHS	Ethylhexyl Salicylate	5.00	5.00
	PARSOL MCX	Ethylhexyl Methoxycinnamate	3.50	3.50
	Neo Heliopan® E1000	Isoamyl p-Methoxycinnamate	4.00	4.00
	RHEODOL MS-165V	Glyceryl Stearate, PEG-100 Stearate	0.90	0.90
	GMS 105	Glyceryl Stearate	0.90	0.90
	Rheodol TW-S120V	Polysorbate 60	1.50	1.50
C	D.I.WATER	Water	10.00	10.00
	SUNSIL-S	Silica, Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	-	10.00
	SUNSIL-NP	Silica	7.00	-
	Propandiol	Propanediol	5.00	5.00
	1,3-BG	Butylene glycol	2.00	2.00
	1,2-Hexanediol	1,2-Hexanediol	1.50	1.50
	Sensiva SC50	Ethylhexylglycerin	0.10	0.10
In-vivo Test Result @SUNJIN			SPF 36.75 PA 10.50	SPF 50 PA 16



POP

- UV Capsules, SPF 50, PA4+
- Recommended container, Blow bottle and Tube
- Ethanol free, Coral reef-free
- Good transparency
- Water Resistant

POD

- Micro Plastic free

Marketing Point

- Ethanol Free SUNGEL
- Patented UV Capsules inside

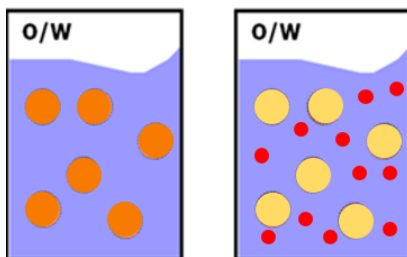
Benefit 1-2: Broad Spectrum Performance

	INCI	UL310X-250204C	UL310X-250204B
A	D.I.WATER	50.25	53.15
	EDTA	0.05	0.05
	Sepimax Zen	0.25	0.25
	SEPINOV™ EMT 10	0.2	0.2
	Olivem 1000	1.4	1.4
B	Parsol 1789	2.9	-
	PARSOL 340	9.5	9.5
	PARSOL EHS	4.5	4.5
	PARSOL MCX	7.25	7.25
	SUN BOS	5	5
	Solastay S1	2	2
	RHEODOL MS-165V	2.2	2.2
	Aracel 60	0.5	0.5
	Rheodol TW-S120V	2	2
C	SUNSIL-AB	-	9.67 (=AB 2.9)
	SUNSIL-20	2	-
	SUNSIL-130	3	-
	Propandiol	5	5
	1,2-Hexandiol	1.5	1.5
	SENSIVA SC 50	0.1	0.1
	Water	-	5
D	SIMULGEL EG	0.4	0.4

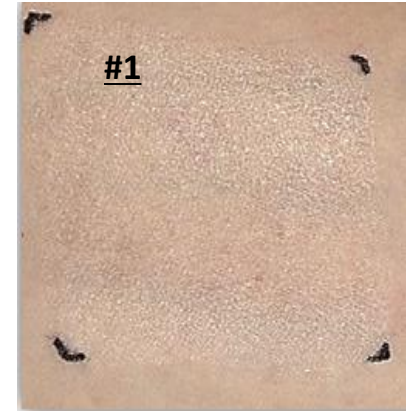
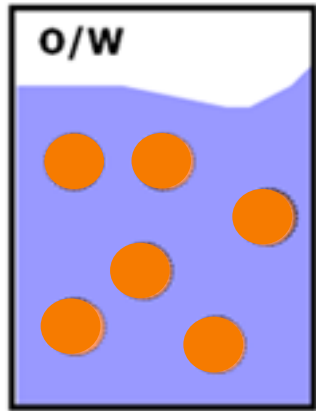
Normal in vitro method (without prior UV EXPOSURE)		
	UL310X-250204C	UL310X-250204B
UVA 1/UV ratio	0.75	0.77
Critical Wavelength	375.1	376.4

FDA Broad Spectrum in vitro Method (with prior UV EXPOSURE)		
UVA 1/UV ratio	0.68	0.72*
Critical Wavelength	373.6	375.4

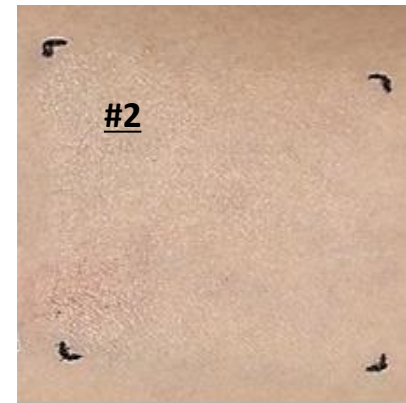
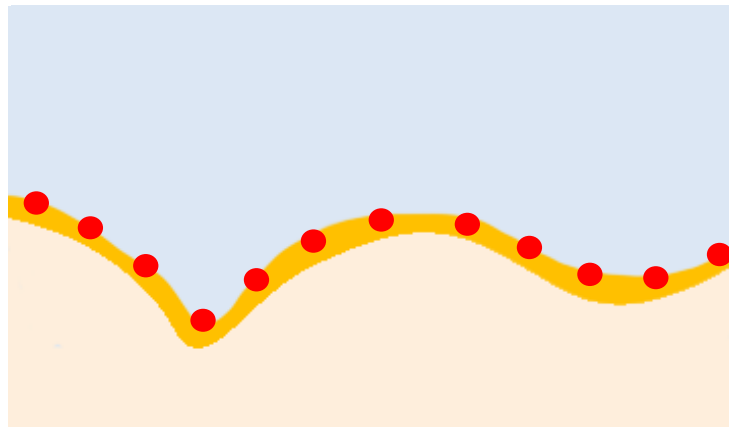
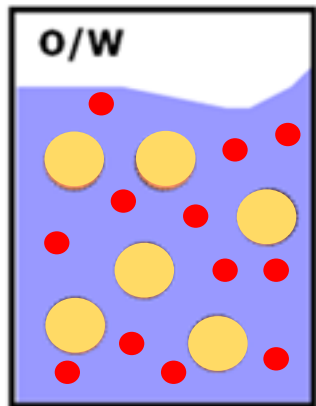
*** The UVA1/UV ratio
was confirmed to be greater than 0.7**



Benefit 2: Airy Texture and Less Oily



Non-Greasy Finish



Test method

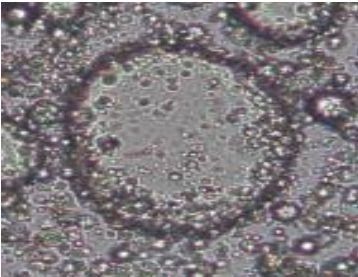
1. Drop 0.05g of Formula on the skin(4cm x 4cm).
2. Rubbing lightly for 60 seconds.

Benefit 3 : Formulation Stability

Tested Formula : O/W Ethanol Free Sun Gel

Phase	Ingredients	INCI Name	#3	#4
A	D.I Water	Water	63.40	63.40
	Pemulen TR1	Acrylates/C10-30 Alkyl Acrylate Cross polymer	0.20	0.20
	cabopol-940	Carbomer	0.05	0.05
B	Parsol HMS	Homosalate	10.00	10.00
	Parsol EHS	Ethylhexyl Salicylate	5.00	5.00
	Pasol 340	Octocrylene	2.00	2.00
	SUNBEMT-S	Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	5.00	2.00
C	SUNSIL-S	Silica, Bis-ethylhexyloxyphenol Methoxyphenyl Triazine	-	10.00
	SUNSIL-130NP	Silica	7.00	-
	1,3-BG	Butylene Glycol	6.00	6.00
D	TEA	Triethanolamine	0.25	0.25
E	1,2-Hexanediol	1,2-Hexanediol	1.00	1.00
	Sensiva SC 50	Ethylhexylglycerin	0.10	0.10

The Pickering emulsion effect was confirmed as SUNSIL-S was located at the oil-water interface.



O/W Sun Gel #3
(BEMT)



Initial Day
(24.05.27)

O/W Sun Gel #4
(SUNSIL-S)



After 2 weeks
(24.06.10)



After 4 weeks
(24.06.24)



After 6 weeks
(24.07.08)



Separate

Stable

UV Protection Boosting Effect

SFGEL enhances the even spread of organic UV filters, **contributing significantly to SPF and PA stability**

POP

- Chemical Filter only

POD

- Silicon Free Primer

Marketing Point

- Silicon Free Primer with UV Protection
- Glossy Glow Blurring Effect



- Clear formula
- SPF50 PA++++
- Silicone-free
- Silky-light primer

UC0301_Advanced Clear Sun Primer **SPF50, PA++++**

	Ingredients	INCI Name	#1	#2
A	SFGEL-M	Caprylic/Capric Triglyceride, Dicaprylyl Carbonate, Silica, Dextrin Palmitate, Diisostearyl Malate, Lactobacillus Ferment	63.3	-
	Silicone		-	63.3
	SUNBOS	Butyloctyl Salicylate	4	4
B	PARSOL MCX	Ethylhexyl Methoxycinnamate	7.3	7.3
	PARSOL 340	Octocrylene	7	7
	PARSOL HMS	Homosalate	5	5
	Neo Heliopan E 1000	Isoamyl p-Methoxycinnamate, Tocopherol	2	2
	SUNBEMT-S	Bis-EthylhexyloxyphenolMethoxyphenylTriazine	2	2
	Uvinul T 150	Ethylhexyl Triazone	1	1
C	SUNSIL-S	Silica, Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine	3	3
	SUNSIL-20	Silica	5	5
D	Caprylyl Glycol	Caprylyl Glycol	0.2	0.2
	1,2-Hexanediol	1,2-Hexanediol	0.2	0.2
In-vitro Test Result @SUNJIN			SPF 93.13 PA 147.43	SPF 5.93 PA 3.13

