



# Deep Sea Defense

## Augmented SPF

OCEANBOOST™ UV

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## Augmented SPF Lotion

A clean, high-performance sunscreen chassis designed to bridge the "real-world SPF gap". OCEANBOOST™ UV elevates this formula with traditional UV filters into a proactive biological shield that maintains efficacy in daily-wear conditions.

### 0.1% | High-Efficiency Bioactive Support:

Even at a low dosage, OCEANBOOST™ UV delivers a significant **27.7% boost** in SPF. This *in vivo* result validates that the "neuro-soothing" TRPV1 effects seen *in vitro* immediately calm the skin's inflammatory response to UV exposure. This makes OCEANBOOST™ UV a novel, sustainable bioactive booster accessible to natural and "clean" face and body skincare formulations.

### 1.0% | Peak Biological Synergy:

At 1% OCEANBOOST™ UV, the strong modulation of sensory (TRPV1), genomic (AP-1), and pigment/recovery pathways seen *in vitro* translates into a powerful **64.2% boost** in SPF value. This result seems to stem from the synergy of these pathways, unlocking the full potential of OCEANBOOST™ UV's **upstream bioactive defense**. This peak inclusion level is ideal for premium, high-performance treatments designed to prevent hyperpigmentation and the visible signs of photoaging.

"clean", high-performance sunscreen chassis designed to bridge the "real-world SPF gap". Even at a **low 0.1% dosage**, OCEANBOOST™ UV delivers a significant **27.7% boost** in SPF.

Stability	Compatibility	Description
5°C/RT*/45°C: 6 weeks	PP Lab Specimen Container	Off-white emulsion
Freeze-Thaw: 3 cycles	Mono- Material Metal-Free PP Airless Pump <i>PTDG-RD30SR</i> Packtory	8,000 - 12,000 cPs <i>Rotational Viscometer</i> Spindle 5 20 RPM
pH range: 7.0 - 7.5		

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*Hot process Water-in-Oil emulsion*

- In a side vessel, mix **A**. Heat to 40 - 45°C
- In a side vessel, prepare B. First mix **B1**, then add **B2**. Heat to 40 - 45°C  
Slowly add **B** into **A**. Check pH of **AB**, and use additional Arginine to adjust the to pH 7 - 7.2 if necessary. Heat **AB** to 80 - 85°C.
- In the main vessel fitted with a defloculator type mixer, add **C** and mix. Begin heating to 80 - 85°C.
- Add **D** to **C**. Mix until homogenous.
- Once **CD** has reached 80 - 85°C, add **E** to **CD** one ingredient at a time, following the order in which they appear in the formula.  
**Always maintain temperature above 80°C.**
- Then, add **F**. Maintain temperature at 80 - 85°C.
- In a side vessel, prepare G. First mix **G1**. Premix **G2** into a slurry, and add to G1. Heat G to 40 - 45°C.

Increase mixing speed of **CDEF** to create a vortex; slowly add **AB** to **CDEF**, then add **G**. Increase mixing speed to 1500 - 2000 RPM and mix for 3 - 5 minutes. Ensure temperature is maintained above 75°C during this mixing process.

Switch to a paddle attachment, and begin cooling; mix at 50 - 100 rpm until formula reaches RT°.

			CONTROL C080126CMD	0.1% OCEANBOOST C080126DMD	1% OCEANBOOST C080126FMD
<b>A</b>	DI Water		10.00 %	10.00 %	10.00 %
<b>A</b>	Magnesium Sulfate		1.00 %	1.00 %	1.00 %
<b>B1</b>	DI Water		35.30 %	35.30 %	35.30 %
<b>B1</b>	Evicare® complex 3	Evident Ingredients	0.10 %	0.10 %	0.10 %
<b>B1</b>	Arginine		1.10 %	1.10 %	1.10 %
<b>B2</b>	PARSOL® HS	DSM-Firmenich	1.50 %	1.50 %	1.50 %
<b>C</b>	PolyAqual™ VO4	Innovacos	4.00 %	4.00 %	4.00 %
<b>C</b>	MIGLYOL® 8810 ECO	IOI Oleo	8.00 %	8.00 %	8.00 %
<b>C</b>	Cetiol® CC	BASF	6.50 %	6.50 %	6.50 %
<b>C</b>	Innollient™ LO	Innovacos	3.00 %	3.00 %	3.00 %
<b>C</b>	Kalahari Melon Seed Oil	African Origins	0.50 %	0.50 %	0.50 %
<b>C</b>	Magnesium Stearate		1.00 %	1.00 %	1.00 %
<b>D</b>	Compritol® 888 ATO	Gattefossé	0.60 %	0.60 %	0.60 %
<b>D</b>	Abwax® Sunflower	Roelmi	0.40 %	0.40 %	0.40 %
<b>E1</b>	BergaSun EHS	Berg+Schmidt	3.00 %	3.00 %	3.00 %
<b>E2</b>	PARSOL® MCX	DSM-Firmenich	4.00 %	4.00 %	4.00 %
<b>E3</b>	PARSOL® Shield	DSM-Firmenich	1.35 %	1.35 %	1.35 %
<b>E4</b>	PARSOL® DHHB	DSM-Firmenich	2.50 %	2.50 %	2.50 %
<b>F</b>	ChromaPur™ CV7	Anomera/Croda	3.00 %	3.00 %	3.00 %
<b>G1</b>	DI Water		10.80 %	10.70 %	9.80 %
<b>G1</b>	Evicide® hydrosens 83	Evident Ingredients	1.20 %	1.20 %	1.20 %
<b>G2</b>	Brontide™	Geno	1.00 %	1.00 %	1.00 %
<b>G2</b>	OCEANBOOST™ LF	Origin by Ocean	-	0.10 %	1.00 %
THEORETICAL SPF SCREENING - ISO 24444:2019 (5 volunteers)			23.5	30.0	38.6