

SunBoost ATB™ & SunBoost ATB™ Natural

SPF Booster with Antioxidant Benefits

According to market studies, the demand for antioxidant-fortified products in cosmeceutical applications is increasing by 8-10% annually with Vitamins A, E, and C having the highest demand. **SunBoost ATB™** is a proprietary mixture of antioxidants, anti-irritant and anti-inflammatory agents. When used in sunscreens in combination with organic and/or inorganic UV Filters, SunBoost ATB™ shows an increase in SPF and PFA scores by more than 30%. An all natural, **Ecocert approved** version, **SunBoost ATB™ Natural**, is also available.

SunBoost ATB™ is also available coupled with High Speed™ TiO₂ dispersion, TNP50T7. **TNP50T7-ATB** can provide up to 4.5 SPF units for each percent of TiO₂ in sunscreen formulas while delivering all the benefits of the antioxidants contained in SunBoost ATB™.

Trade Name: SunBoost ATB™
New SunBoost ATB™ Natural+++

INCI: Argania Spinosa Kernel Oil (And)
Tocopheryl Acetate (And) Bisabolol

Trade Name: TNP50T7-ATB

INCI: C12-15 Alkyl Benzoate (And)
Titanium Dioxide (And) Argania Spinosa
Kernel Oil (And) Alumina (And)
Methicone (And) Tocopheryl Acetate
(And) Polyhydroxystearic Acid (And)
Bisabolol

Formula Reference	Actives	In Vivo SPF	PFA	% Boost on SPF	% Boost on PFA
KSL-138 O/W Base	Organic 31%	40	13	Control	
KSL-138V	Organic 31% SunBoost ATB™ 5%	54	17	35%	31%
KSL-177-CH W/O Base	TiO ₂ 5.78% ZnO 3.74%	19	7	Control	
KSL-177C-CH	TiO ₂ 5.78% ZnO 3.74% SunBoost ATB™ 3.6%	30	10	58%	43%
KSL-188 W/O Base	TNP50T7 18.53% (TiO ₂ 7.13%)	22	4	Control	
KSL-188E	TNP50T7-ATB 18.53% (TiO ₂ 6.85%)	32	7	45%	75%

Comparison of SPF and PFA of formulas with and without SunBoost ATB™

SunBoost ATB™ Natural



+++ Raw material approved by
Ecocert in accordance with
the Ecocert Standard



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SunBoost ATB™

High SPF Sunscreen with SunBoost ATB™



KSL-138V

Part 1

- Deionized Water 45.90%
- Liposorb® L-20 - Vantage: Polysorbate 20 1.00%

Part 2

- Propylene Glycol - Symrise: Propylene Glycol 1.50%
- KELTROL® CG - CP Kelco: Xanthan Gum 0.30%

Part 3

- Neo Heliopan® HMS - Symrise: Homosalate 15.00%
- Neo Heliopan® OS - Symrise: Ethylhexyl Salicylate 10.00%
- Ceraphyl® 368 - ISP: Ethylhexyl Palmitate 7.00%
- SunBoost ATB™ - Kobo Products: Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol 5.00%
- Lipo® GMS 450 - Vantage: Glyceryl Stearate 3.00%
- Neo Heliopan® 357 - Symrise: Butyl Methoxydibenzoylmethane 3.00%
- Neo Heliopan® BB - Symrise: Benzophenone-3 3.00%
- Lipomulse® 165 - Vantage: Glyceryl Stearate (And) PEG-100 Stearate 2.00%
- Covi-ox® T-50 - Cognis Corp.: Tocopherol 0.50%
- Lipowax® D - Vantage: Cetearyl Alcohol (And) Cetareth-20 0.50%
- Liposorb® TS - Vantage: Sorbital Tristearate 0.30%

Part 4

- Botanistat PF-64 - DD Chemco: Phenoxyethanol (and) Caprylyl Glycol (and) Ethylhexylglycerin (and) Hexylene Glycol 1.00%

Part 5

- Aculyn™ 44 - Rohm & Haas: PEG-150/Decyl Alcohol/SMDI Copolymer 1.00%

Manufacturing Procedure

1. In main kettle, combine Part 1 ingredients and heat to 78-80°C.
2. Combine Part 2 ingredients and heat to 80°C. Mix until uniform using propeller mixer.
3. Add Part 2 to Part 1 and mix until uniform.
4. Combine Part 3 ingredients. Heat to 80°C and add to batch with propeller mixing.
5. Add Part 4 while cooling.
6. Homogenize for approximately 2 minutes at 4000 rpm.
7. Add Part 5 to batch.
8. Homogenize for approximately 1 minute at 4000 rpm.
9. Cool batch to 30°C.

Description

This sunscreen contains Kobo's new SunBoost ATB™. This product is a proprietary ratio of anti-oxidants, anti-irritant and anti-inflammatory agents. In this sunscreen, SunBoost ATB™ increased the SPF from 40 to 54. It can also boost PFA values.

**The USA limit of Ethylhexyl Salicylate is 5%. This formula is not for use in USA.

Active Ingredients

Homosalate	15.00%
Ethylhexyl Salicylate	10.00%
Butyl Methoxydibenzoylmethane	3.00%
Benzophenone	3.00%

SPF & UVA-PF Testing: in vivo on 3 subjects

Economical O/W Sunscreen with SunBoost ATB™ & TNP Dispersions



KSL-177C-CH

Part 1

- Deionized Water 61.20%
- Germaben® II - ISP: Propylene Glycol (And) Diazolidinyl Urea (And) Methylparaben (And) Propylparaben 1.00%

Part 2

- Glycerin U.S.P. Natural 96% - Cognis Corp.: Glycerin 4.00%
- KELTROL® CG - CP Kelco: Xanthan Gum 0.20%

Part 3

- TNP50T7 - Kobo Products: C12-15 Alkyl Benzoate (And) Titanium Dioxide (And) Alumina (And) Polyhydroxystearic Acid (And) Methicone 15.00%
- TNP65FZS - Kobo Products: Zinc Oxide (And) C12-15 Alkyl Benzoate (And) Triethoxycaprylylsilane (And) Polyhydroxystearic Acid 6.00%
- SunBoost ATB™ - Kobo Products: Argania Spinosa Kernel Oil (And) Tocopheryl Acetate (And) Bisabolol 3.60%
- Lipopeg® 100-S - Vantage: PEG-100 Stearate 2.50%
- Lipo® GMS 450 - Vantage: Glyceryl Stearate 1.50%
- Dermol 25B - Alzo International Inc.: C12-15 Alkyl Benzoate 0.60%
- Shea Butter - Cognis Corp: Shea Butter 0.40%

Part 4

- MSS-500W - Kobo Products: Silica 3.00%
- Sepigel™ 305 - SEPPIC: Polyacrylamide (And) C13-14 Isoparaffin (And) Laureth-7 1.00%

Manufacturing Procedure

1. Combine Part 1 and heat to 70°C.
2. Combine Part 2 ingredients into a slurry and add to Part 1 while mixing.
3. Combine Part 3 and heat to 70°C.
4. Combine Parts 1 and 2 with Part 3 under homogenization.
5. Add Part 4 while cooling.

Description

Economical sunscreen that uses Kobo's Titanium Dioxide Dispersion, TNP50T7, and Kobo's Zinc Oxide Dispersion, TNP65FZS. The proportion of Titanium Dioxide to Zinc Oxide provides SPF 30, with minimal whitening on the skin. MSS-500W spherical silica microsphere provides slip during application and reduces shine on the skin. SunBoost ATB™, a proprietary ratio of anti-oxidants, anti-irritant and anti-inflammatory agents, helps boost SPF and PFA.

Active Ingredients

Titanium Dioxide	5.775%
Zinc Oxide	3.744%

SPF & UVA-PF Testing: in vivo on 3 subjects

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