



LexFilm™ Sun Natural MB

Plant-Based Film Former for Sun Care



U.S. Patent No. 7,317,068

UV Protection

BB Cream *Primer* **Foundations**
Bronzer *Blush* Hair Styling Moisturizers
Lip Balm NOT FOR JUST FOR THE BEACH ANYMORE *Lip Stick*
Conditioner Powders *Fluid Illuminators*
Shampoo Hair Colorants **Concealer**

Consumer's Awareness & Demands



Ample Protection

- Enhanced SPF
- Product extended time
- Greater resistance to wash-off

Good Aesthetics

- Improved sensory
Non-Oily / Non-Greasy

Natural Formulations

- Innovative forms
- Easy to use with nice after-feel



Formulators Consideration



- **Full protection**
- **Long lasting formulas**
- **Improved aesthetics**
- **Fewer and more natural ingredients**
- **Efficacy and wash-off resistance**
- **Multipurpose products**



Sun Care Formulations



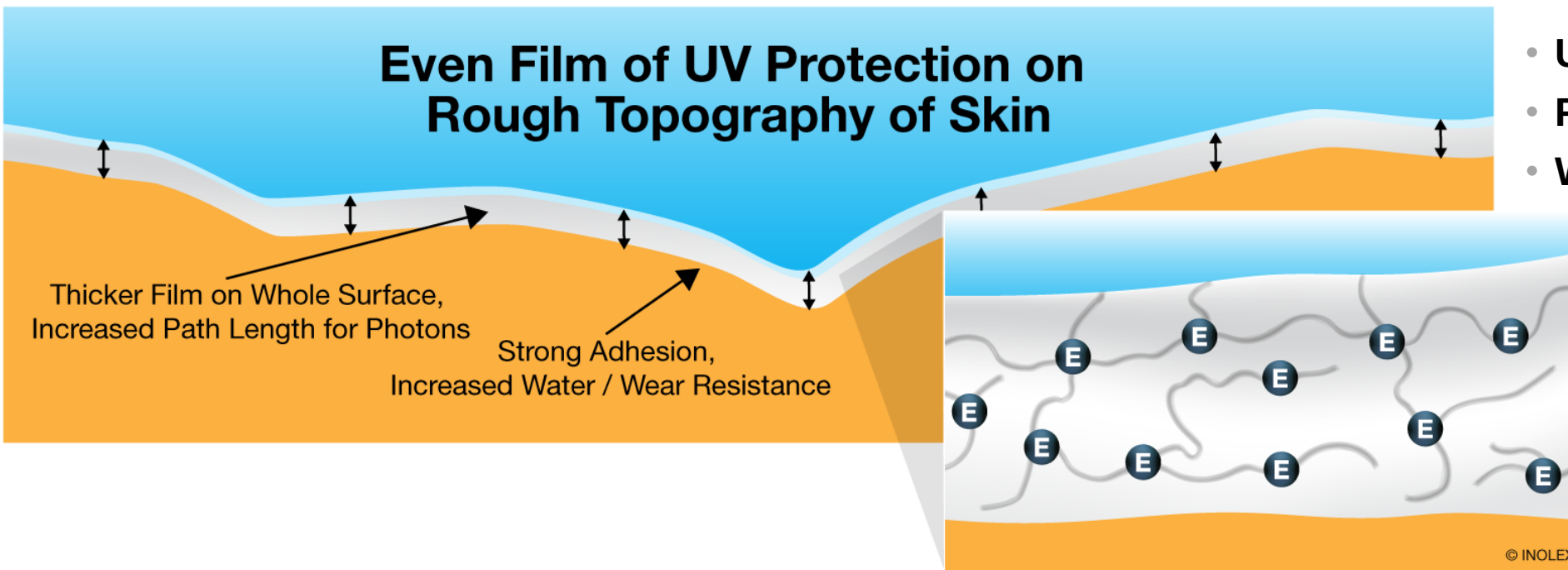
Key Factors

- **Uniform coverage**
- **Film thickness**
- Prevention of filter recrystallization
- Maximizing the oil-phase polarity
- **Aesthetics**



Film Former

Incorporation of **film former** in SPF formulation is a key factor to achieving coverage and protection.



- Uniform coverage
- Film thickness
- Water resistance

Aesthetics of Film Formers

Product	Physical State
Dermacryl 79	Solid, Powder
Ganex V-220	Solid, Wax
WetFilm™ MB	Liquid
Lexorez™ 100 MB	Liquid
Lexorez™ 200 MB	Liquid
LexFilm™ Sun	Liquid
Desired Innovation	Natural + Liquid

Many current actives and sun care ingredients are highly crystalline solids

- Impart a gritty or draggy feel to formulations

All INOLEX actives are in a pourable liquid form

- Immediate and consistent aesthetic appeal
- Smoother, more even application

But natural pourable liquid forms are desired



NEW! LexFilm™ Sun Natural MB: Plant Based Polymer

INCI: Capryloyl Glycerin/Sebacic Acid Copolymer

- Multidimensional Polymer
- 100% Natural
- Plant Based
- Water-resistant

Property	Value
Active Content	100%
Appearance	Pale, Viscous Liquid
Viscosity, 25°C	5,000 cP
Refractive Index, 25°C	1.46



LexFilm™ Sun Natural MB – vs – Benchmark

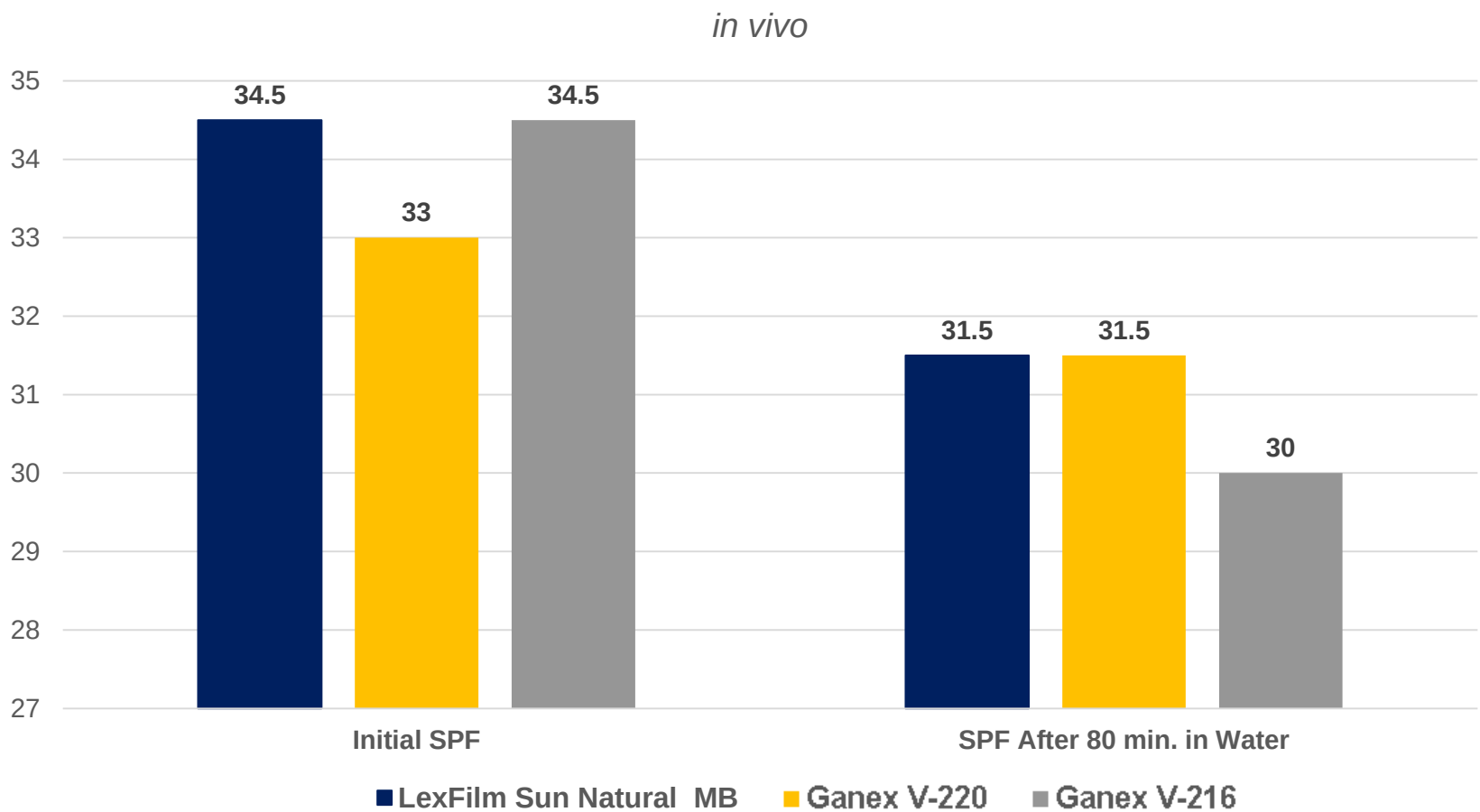
Water Resistant SPF 30 with Organic Filters

Phase	Trade Name	Ingredient (INCI)	629-140 %(w/w)	629-099 %(w/w)	629-141 %(w/w)	Function
A	Deionized Water	Deionized Water	58.85	58.85	58.85	Diluent
	Carbopol ETD2020 ²	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	0.5	0.5	0.5	Thickening Agent
	NaOH, 10%	NaOH, 10%	0.3	0.3	0.3	pH Adjustor
	Glycerin	Glycerin	0.1	0.1	0.1	Humectant
	Spectrastat™ ¹	Caprylhydroxamic Acid (and) Caprylyl Glycol (and) Glycerin	1.0	1.0	1.0	Preservation System
B	LexFeel™ 7 ¹	Neopentyl Glycol Diheptanoate	6.0	6.0	6.0	Emollient
	Lexemul® 561 MB ¹	Glyceryl Stearate (and) PEG-100 Stearate	0.75	0.75	0.75	UV Filter
	Montanov 202 ³	Arachidyl Alcohol (and) Behenyl Alcohol (and) Arachidyl Glucoside	4.0	4.0	4.0	Emulsifier
	Avobenzene	Avobenzene	3.0	3.0	3.0	UV Filter
	Homosalate	Homosalate	10.0	10.0	10.0	UV Filter
	Octisalate	Octisalate	4.5	4.5	4.5	UV Filter
	Octocrylene	Octocrylene	5.0	5.0	5.0	UV Filter
	Benzophenone-3	Benzophenone-3	4.0	4.0	4.0	UV Filter
	LexFilm™ Sun Natural MB	Capryloyl Glycerin/Sebacic Acid Copolymer	2.0			Film Former
	Ganex V-220 ⁴	VP/Eicosene Copolymer		2.0		Film Former
	Ganex V-216 ⁴	VP/Hexadecene Copolymer			2.0	Film Former
¹ INOLEX, ² Lubrizol, ³ Seppic, ⁴ Ashland			Total	100.00		



SPF Retention after Water Immersion

Water Resistant SPF 30 with Organic Filters



LexFilm™ Sun Natural MB demonstrated comparable *in vivo* water resistance performance to Ganex V-220 but was superior than Ganex V-216.

Critical Wave Length (nm)	
LexFilm™Sun Natural MB (629-140)	377.00
Ganex V-220 (629-099)	376.75
Ganex V-216 (629-141)	375.90

*Tests done with 2% polymer.



LexFilm™ Sun Natural MB – vs – Benchmark

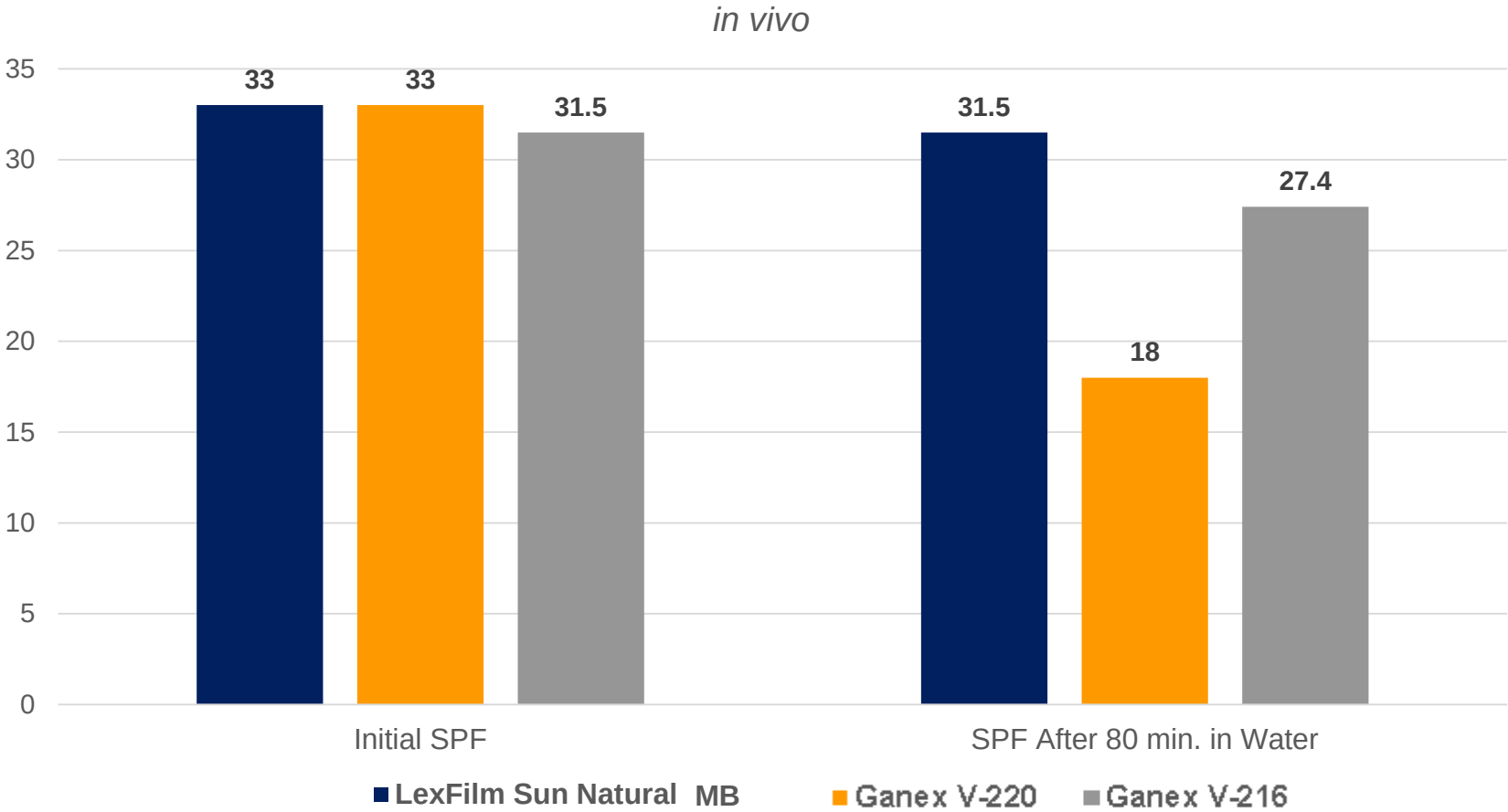
Water Resistant SPF 30 with Inorganic Filters

Phase	Trade Name	Ingredient (INCI)	629-200-6G %(w/w)	617-008C(2) %(w/w)	629-201-6G %(w/w)	Function
A	Deionized Water	Deionized Water	60.5	60.5	60.5	Diluent
	Keltrol GC-T ²	Xanthan Gum	0.5	0.5	0.5	Thickening Agent
	Glycerin	Glycerin	1.0	1.0	1.0	Humectant
	Spectrastat™ G2 Natural MB¹	Caprylhydroxamic acid (and) Glyceryl Caprylate (and) Glycerin	1.0	1.0	1.0	Preservation System
B	LexFeel™ Natural¹	Heptyl Undecylenate	5.0	5.0	5.0	Emollient
	KOBO MPT-154-NJE ³	Titanium Dioxide (and) Alumina (and) Jojoba Esters	10.0	10.0	10.0	UV Filter
	Montanov 68 ⁴	Cetearyl Alcohol (and) Cetearyl Glucoside	4.0	4.0	4.0	Emulsifier
	Lexol™ GT-865 MB¹	Caprylic/Capric Triglyceride	5.0	5.0	5.0	Emollient
	Hydrogenated Cocoglycerides	Hydrogenated Cocoglycerides	1.0	1.0	1.0	Emulsifier
	Sunflower Oil	Sunflower Oil	5.0	5.0	5.0	Emollient
	Jojoba Oil	Jojoba Oil	5.0	5.0	5.0	Emollient
	LexFilm™ Sun Natural MB	Capryloyl Glycerin/Sebacic Acid Copolymer	2.0			Film Former
	Ganex V-220 ⁵	VP/Eicosene Copolymer		2.0		Film Former
	Ganex V-216 ⁵	VP/Hexadecene Copolymer			2.0	Film Former
¹ INOLEX, ² Lubrizol, ³ Seppic, ⁴ Ashland			Total	100.00		



SPF Retention after Water Immersion

Water Resistant SPF 30 with Inorganic Filters



LexFilm™ Sun Natural MB demonstrated superior *in vivo* water resistance over benchmarks.

- Both benchmarks failed immersion test.

Critical Wave Length (nm)	
LexFilm™ Sun Natural MB (629-200-6G)	377.87
Ganex V-220 (617-008C(2))	378.00
Ganex V-216 (629-201-6G)	379.00

*Tests done with 2% polymer.



LexFilm™ Sun Natural MB: Summary



- Plant-based
- 100% Natural
- Pourable fluid
- Easy to formulate with and easy for manufacturing
- Superior aesthetics



Formulation: After Sun Spray

Phase	Trade Name	Ingredient (INCI)	(w/w)%
A	Deionized Water	Deionized Water	74.85
	Aloe Vera Gel	Aloe Vera Gel	10.00
	Emulsense™¹	Brassicyl Isoleucinate Esylate (and) Brassica Alcohol	4.00
	L-Arginine ²	L-Arginine ²	0.15
	Glycerin	Glycerin	1.00
	Lexgard® Natural MB¹	Glyceryl Caprylate (and) Glyceryl Undecylenate	1.00
B	SustOleo™ BA¹	Brassica Alcohol	2.00
	LexFilm™ Sun Natural MB¹	Capryloyl Glycerin/Sebacic Acid Copolymer	2.00
	LexFeel™ Natural¹	Heptyl Undecylenate	5.00
¹ INOLEX		Total	100.00
			SC-1082

Sun-kissed skin feels soothed with this aloe infused spray featuring **LexFilm™ Sun Natural MB**. Quick-absorbing, soothed and conditioned after sun exposure, naturally.



Formulation: Daily Recovery Cream

Phase	Trade Name	Ingredient (INCI)	(w/w)%
A	Deionized Water	Deionized Water	58.85
	Glycerin	Glycerin	0.1
	Carbopol ETD2020 ²	Acrylates/C10-30 Alkyl Acrylate Crosspolymer	0.5
B	LexFeel™ 7¹	Neopentyl Glycol Diheptanoate	6.0
	Lexemul® 561 MB¹	Glyceryl Stearate (and) PEG-100 Stearate	0.75
	Montanov 202 ³	Arachidyl Alcohol (and) Behenyl Alcohol (and) Arachidyl Glucoside	4.0
	Avobenzene	Butyl methoxydibenzoyl methane	3.0
	Homosalate	3,3,5-Trimethylcyclohexyl salicylate	10.0
	Octisalate	Ethylhexyl salicylate	4.5
	Octocrylene	Octocrylene	5.0
	Oxybenzone	Benzophenone-3	4.0
	Lexfilm™ Sun Natural MB¹	Capryloyl Glycerin/Sebacic Acid Copolymer	2.0
C	NaOH, 10%	Deionized Water (and) Sodium Hydroxide	0.3
	Spectrastat™¹	Caprylhydroxamic Acid (and) Caprylyl Glycol (and) Glycerin	1.0
¹ INOLEX ² Lubrizol ³ Seppic			100.00
			SC-1083

This luxurious recovery cream with **LexFilm™ Sun Natural MB** is a treat for sun-kissed skin. Rich and light with a powdery after feel, it leaves skin feeling moisturized and smooth with a healthy natural glow.



Formulation: Natural Glow CC Cream

Phase	Trade Name	Ingredient (INCI)	(w/w)%
A	Deionized Water	Deionized Water	52.9
	Glycerin	Glycerin	3.0
	Solagum™ AX ²	Acacia Senegal Gum (and) Xanthan Gum	0.3
B	NaOH, 10%	Deionized Water (and) Sodium Hydroxide	0.2
	Lexgard® Natural MB¹	Glyceryl Caprylate (and) Glyceryl Undecylenate	1.0
	SustOleo™ GMS-SE¹	Glyceryl Stearate SE	3.0
	Decyl Glucoside	Decyl Glucoside	3.0
	SustOleo™ BA¹	Brassica Alcohol	4.0
	LexFilm™ Sun Natural MB¹	Capryloyl Glycerin/Sebacic Acid Copolymer	3.0
C	LexFeel™ Natural¹	Heptyl Undecylenate	10.0
	SustOleo™ MCT¹	Triheptanoin	10.0
	Titanium Dioxide, Oil Dispersible	Titanium Dioxide, Oil Dispersible	8.0
	Iron Oxide (Black, Red, Yellow)	Iron Oxide	1.6
D	Citric Acid, 25%	Deionized Water (and) Citric Acid	Q.S. to 6.5-7.5
¹ INOLEX ² Seppic		Total	100.00
			CC-1044

This lightweight, natural CC primer with **LexFilm™ Sun Natural MB**, evens out skin-tone leaving it smooth and picture perfect.

Easy spreading and quick absorbing, this multifunctional formula of primer with coverage leaves the skin soft and even in one smooth application.

