

ABIL® Wax

Cosmetic oils/waxes for skin care products

- Liquid to waxy components for skin care emulsions, decorative cosmetics and sun protection products
- Formulations with ABIL® Wax give a pleasant silky skin feel
- Improves pigment dispersion
- Enhances SPF response of sun protection creams and lotions

Personal Care

INCI Name (CTFA Name)

ABIL® Wax 9800	Stearyl Dimethicone
ABIL® Wax 9801	Cetyl Dimethicone
ABIL® Wax 9840	Cetyl Dimethicone
ABIL® Wax 2434	Stearoxy Dimethicone
ABIL® Wax 2440	Behenoxy Dimethicone

Application

- ABIL® Wax 9801 and 9840 are liquid to waxy organopolysiloxanes, which are synthesized by linking polydimethyl siloxanes with long chain hydrocarbons.
- Due to their unique chemical structure these products are interesting positioned between lipid-like organic substances and polydimethylsiloxanes (known as silicone oils).
- ABIL® Wax 9801 and 9840 are soluble in all oils and waxes commonly used in cosmetics.
- The good spreadability and the emollient-effect of the ABIL® Waxes enable them to improve the application and skin care properties of formulations. They also can contribute to wash resistance.
- Due to their spreading effects on skin ABIL® Wax 9801 and ABIL® Wax 9840 will increase the effectivity of UV-filters in emulsions. Thus it is possible to reduce the level of UV-filters and maintain the SPF. The optimum ABIL® Wax type depends on the type or combination of UV-filters employed. For emulsions only based on either organic filters or on only physical filters ABIL® Wax 9801 is especially suitable.

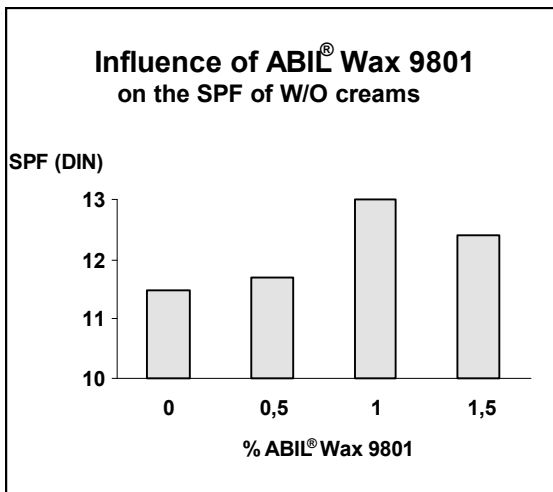


Fig. 1 shows the SPF response (DIN) in W/O creams containing 3 % Ethylhexyl Methoxycinnamate related to the added quantity of ABIL® Wax 9801. The maximum SPF is achieved by the addition of 1 % ABIL® Wax 9801.

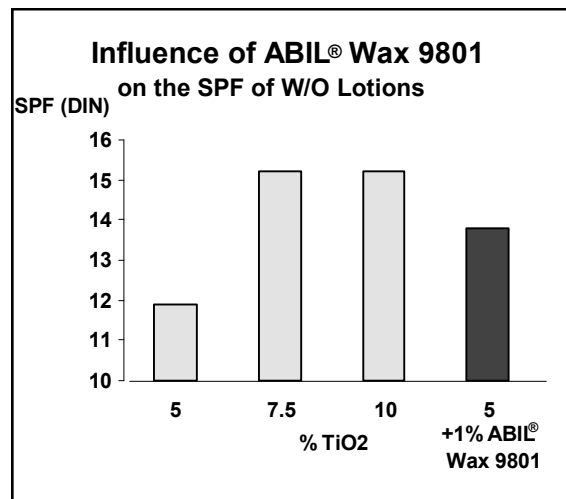


Fig. 2 shows the SPF values (DIN) of W/O lotions containing different quantities of TiO₂. For this application the SPF can also be increased significantly by the addition of ABIL® Wax 9801.

For formulations containing a mixture of organic UV-filters and TiO₂ ABIL® Wax 9840 is especially recommended to improve the sun protection factor response.

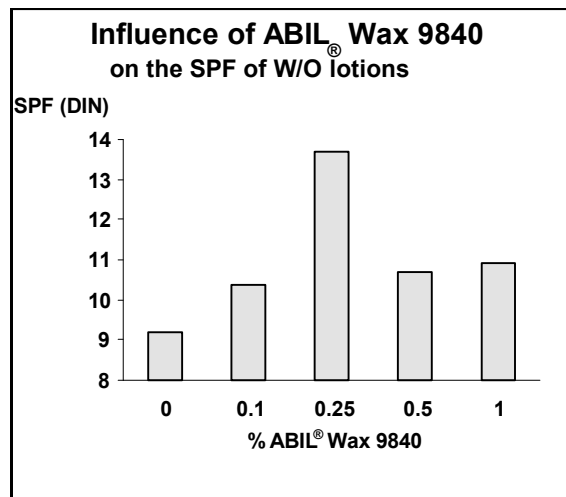


Fig. 3 shows the SPF values (DIN) of W/O-lotions which contain both 3 % TiO₂ and 3 % Ethylhexyl Methoxycinnamate

In products based on a combination of organic and physical filters the best boosting-effect can be achieved by adding 0.25 % ABIL® Wax 9840.

Recommended usage concentration

ABIL® Wax 9800	1 – 5 %
ABIL® Wax 9801	1 – 5 %
ABIL® Wax 9840	0.25 – 1 %
ABIL® Wax 2434	1 – 5 %
ABIL® Wax 2440	1 – 5 %

Packaging

ABIL® Wax 9800	50 kg drum
ABIL® Wax 9801	180 kg drum
ABIL® Wax 9840	180 kg drum
ABIL® Wax 2434	180 kg drum
ABIL® Wax 2440	50 kg drum

Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in accidents and fires
- toxicity and ecological effects

is given in our material safety data sheets.

ABIL® Wax 9800	ABIL® Wax 9801
slight boosting of SPF O/W emulsions	sunscreen boosting with organic filters, or micropigments in W/O
anti agglomerate agent for TiO ₂	good pigment dispersion → O/W make-ups
not compatible with castor oil, compatible with quaternary compounds for hair care	good compatibility with cyclics and anti-whitening in antiperspirants
	good spreading (even in O/W)
	soft skin feel

ABIL® Wax 9840	ABIL® Wax 2434	ABIL® Wax 2440
sunscreen boosting with filter combinations in W/O	creaming effect on waxes	improves dispersion of ACH in antiperspirants suspensions and solids
	creamy feel and long lasting effect in lipsticks	
long wearing effect in pressed powders	compatibility with castor oil/Eutanol G	
maximum spreading agent for oils	spreading and evenness effect in O/Ws and antiperspirants	bulking effect (cushion)
O/W: good silky skin feel	soft skin feel in O/W	makes the emulsion feel richer

	ABIL® Wax 9801	ABIL® Wax 9840	ABIL® Wax 9800	ABIL® Wax 2434	ABIL® Wax 2440
Silky Skin Feel	•	•		•	
Cushioning					•
Emolliency (richness)			•		•
Lubricating			•		

Guide Line Formulations

O/W Body Butter MK 63/05-1	
Phase A	
TEGO® Care 165 (Glyceryl Stearate; PEG-100 Stearate)	6.0 %
TEGO® Alkanol 1618 (Cetearyl Alcohol)	1.5 %
TEGOSOFT® MM (Myristyl Myristate)	1.0 %
TEGOSOFT® CR (Cetyl Ricinoleate)	1.0 %
ABIL® Wax 2440 (Behenoxy Dimethicone)	1.0 %
Cyclomethicone	6.0 %
Soybean (Glycine Soja) Oil	7.0 %
Butyrospermum parkii (Shea butter)	7.0 %
Theobroma cacao (Cacao butter)	7.0 %
Lanolin alcohol	1.0 %
Phase B	
Glycerin	5.0 %
EDTA	0.1 %
Water	55.7 %
Phase C	
Phenonip	0.7 %
<u>Preparation:</u>	
<ol style="list-style-type: none"> Heat phase A and B separately to approx. 80 °C. Add phase A to phase B with stirring¹⁾. Homogenise. Add phase C at approx. 40 °C. Cool down with stirring. 	
<p>Important: If phase A has to be charged into the vessel first, phase B must be added without stirring.</p>	

W/O Sun Protection Lotion SPF (FDA) 22 GB-104	
Phase A	
ABIL® WE 09 (Polyglyceryl-4 Isostearate; Cetyl PEG/PPG-10/1 Dimethicone; Hexyl Laurate)	5.0 %
ABIL® Wax 9801 (Cetyl Dimethicone)	1.0 %
TEGOSOFT® M (Isopropyl Myristate)	4.0 %
TEGOSOFT® OS (Ethylhexyl Stearate)	4.0 %
Cyclomethicone	4.0 %
Mineral Oil (30 mPas)	5.0 %
Almond Oil	2.0 %
Hydrogenated Castor Oil	0.8 %
Microcrystalline Wax ¹⁾	1.2 %
Ethylhexyl Methoxycinnamate	3.0 %
Phase B	
Sodium Chloride	0.8 %
Water	69.2 %
Preservative, Parfum	q.s.
<u>Preparation:</u>	
<ol style="list-style-type: none"> Heat phase A to approx. 80 °C. Add phase B (80 °C or room temperature) slowly while stirring. Homogenise for a short time. Cool with gentle stirring below 30 °C and homogenise again. 	

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