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N E W  
P R O D U C T

A substitute for natural silicone, which eases  
irritated skin with 'maskne'



# A-Silkne

# The Concept behind A-Silkne

Cosmetic Ingredient in the With-Covid-19 Era

#Clean Beauty #Maskne #Anti-acne #Anti-inflammatory #Feeling after Use #Natural #Plant-derived

With the emergence of COVID-19 pandemic, diverse crises modern consumers have encountered came to the surface. People's fear of viruses and outside world has hit a peak, and psychological pain resulting from isolation has also increased. In the belief that it is our duty to reduce such anxiety and meet consumer needs, we have promoted R&Ds to provide more effective ingredients in a safe and secure fashion. To properly respond to new consumption patterns and consumer culture, in addition, we have tried to reflect the latest trends such as Clean Beauty and Sensory Cosmetics.

In makeup unlike skincare, visual effects including coloration, coverage and spreadability are important. Therefore, there have been some criticisms on the use of harmful ingredients. With the gradual spread of people's perception of 'body burden' in makeup products, clean-beauty makeup products have already been successful abroad, especially in niche brands. In particular, there has been a rising demand for ingredients which can substitute some controversial materials among base makeup ingredients such as silicon oil (dimethicone, cyclopentasiloxane, etc.) and PEG emulsifiers.

Are there any safe and reliable makeup products which can cover defects and, at the same time, reduce skin inflammation?



# A-Silkne INCI

A-Silkne is a 100% natural plant-derived ingredient obtained with the optimum mixing ratio of heptyl undecylenate (from castor oil) and *Magnolia officinalis* bark extract. With this natural substance, we respond to consumer needs in the With-COVID-19 Era.



Heptyl Undecylenate

A very light and dry emollient extracted from castor oil  
This soft and smooth oil can be a natural substitute for synthetic softeners such as cyclomethicone and mineral oil. It has oil formulation, but it is not greasy and keeps your skin smooth and flexible by preventing trans-epidermal water loss (TEWL).



Magnolia Officinalis Bark Extract

This extract is comprised of magnolol and nonokiol extracted from *Magnolia officinalis* bark. With powerful anti-inflammatory and antimicrobial effects, it is effective in treating acne-causing bacteria without skin irritation.

# A-Silkne Features

## Characteristics

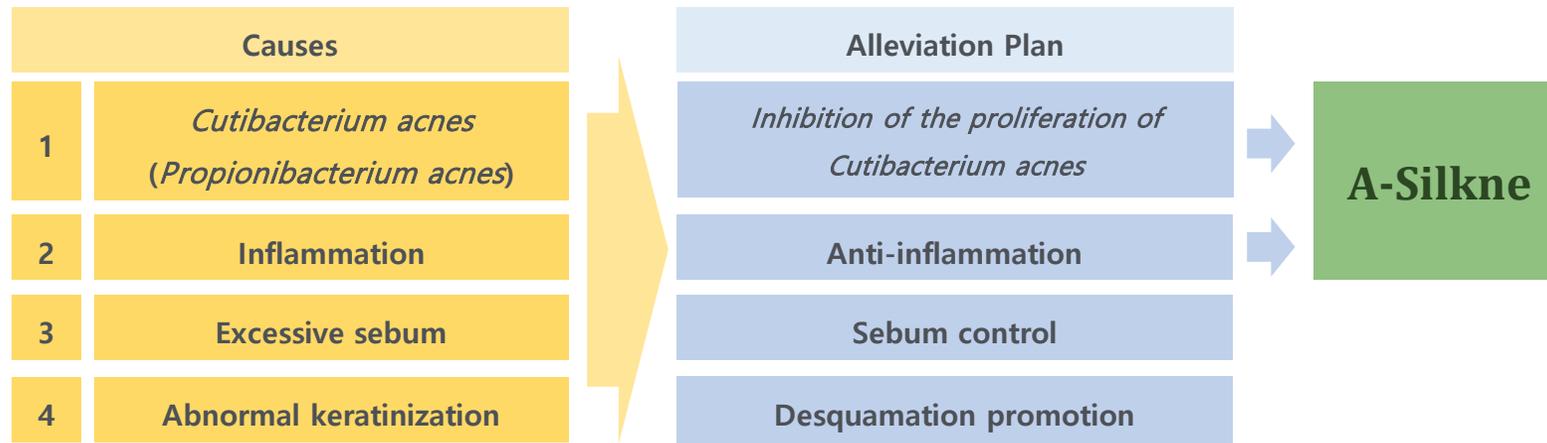
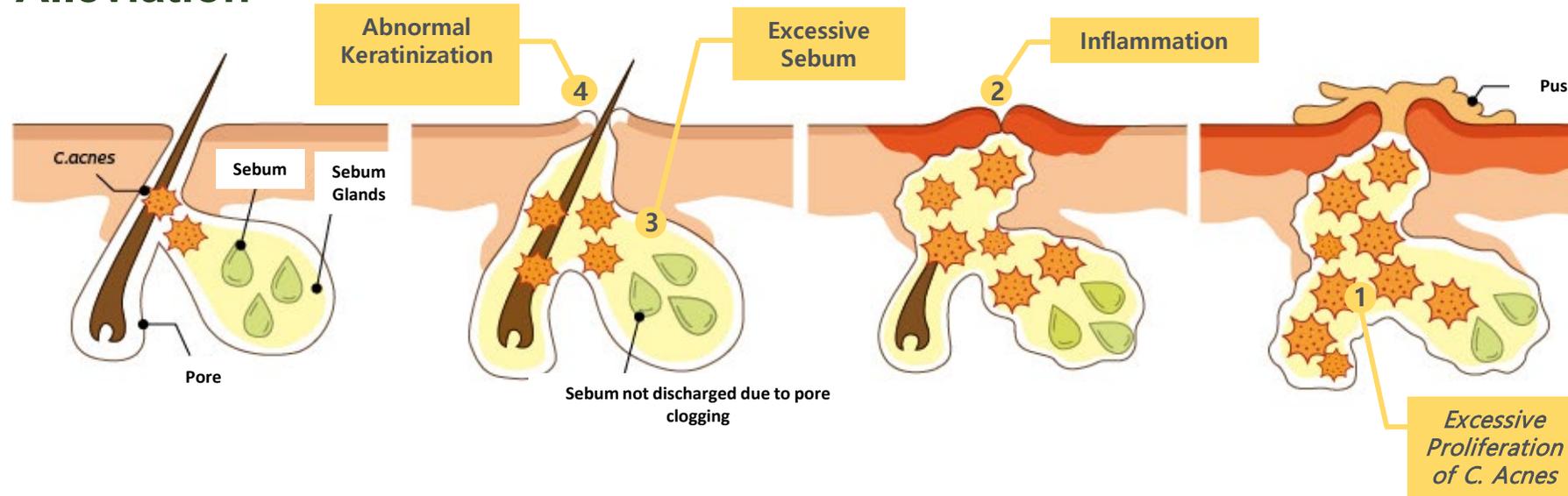
1. Anti-microbial
2. Anti-inflammatory
3. Improvements in feeling after use
4. W/O formula and applicable an emollient
5. 100% natural plant-derived ingredient

## Certification & Patent

1. COSMOS Certificate
2. VEGAN Verified (Korea Agency of Vegan Certification and Services)
3. Patent applied (No. 21-151182)



# A-Silkne Causes of Acne and Alleviation

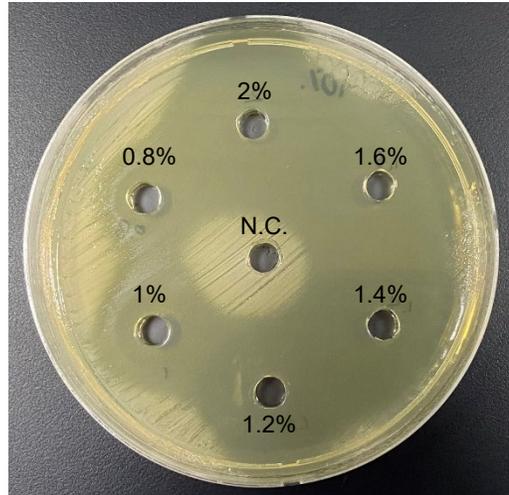


Ref. Int J Oral Biol 44:101-107 (2019), Lim et al.

# A-Silkne Test Data

## Antimicrobial Effects of *Magnolia Officinalis* Bark Extract on *C. Acnes*

- Cultures *C. acnes* ATCC 6919 (acne-causing germ) in an anaerobic environment at 37°C for 4-6 days
- Checks antimicrobial effects via a well-diffusion assay



Inhibition Zone Size (mm)						
2%	1.6%	1.4%	1.2%	1%	0.8%	N.C.
>30	>30	>30	>30	20	17	-

\* Well size: 7 mm

\* N.C.: Negative control

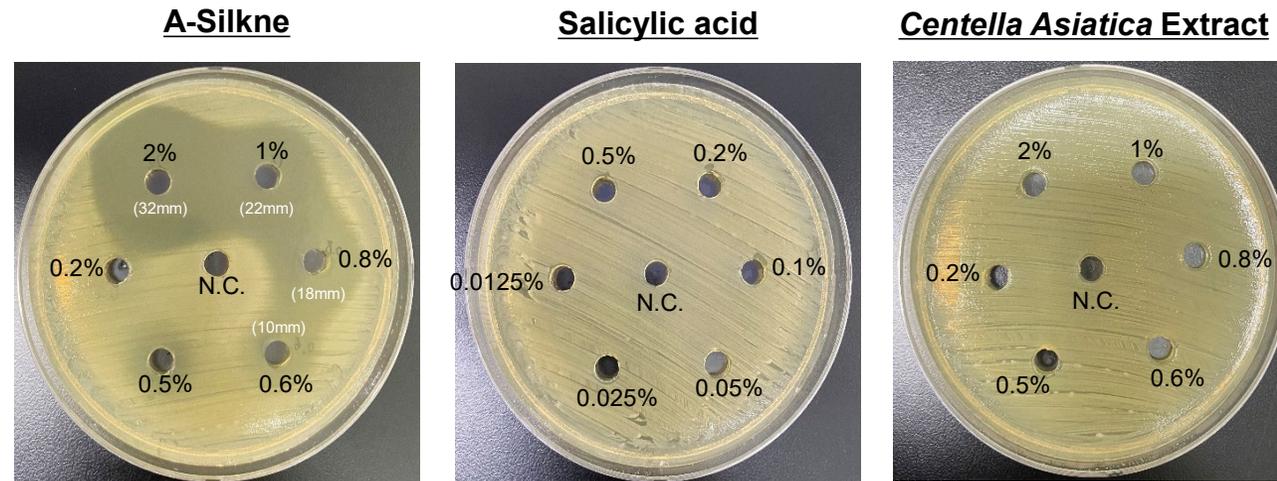
\* -: No antimicrobial effects

→ Great antimicrobial effects on *C. acnes* confirmed even at low concentration (0.8%)

# A-Silkne Test Data

## Antimicrobial Effects of A-Silkne on *C. Acnes*

- Cultures *C. acnes* ATCC 6919 (acne-causing germ) in an anaerobic environment at 37°C for 4-6 days
- Checks antimicrobial effects via a well-diffusion assay



	Min. Concentration for Antimicrobial Effects
A-Silkne	0.6%
Salicylic Acid	>0.5% (Mixing Limit)
<i>Centella Asiatica</i> Extract	>2%

	Prepared by	Diluent, Negative Control (N.C.)
A-Silkne	ACTIVON	DMSO
Salicylic Acid	DAEJUNG Chemical & Metals	DMSO
<i>Centella Asiatica</i> Extract	ACTIVON	Distilled Water

→ Compares antimicrobial effects on *C. acnes* with salicylic acid and *Centella asiatica* extract which are commonly used in acne care

→ Greater than salicylic acid and *Centella asiatica* extract in terms of antimicrobial effects on *C. acnes*

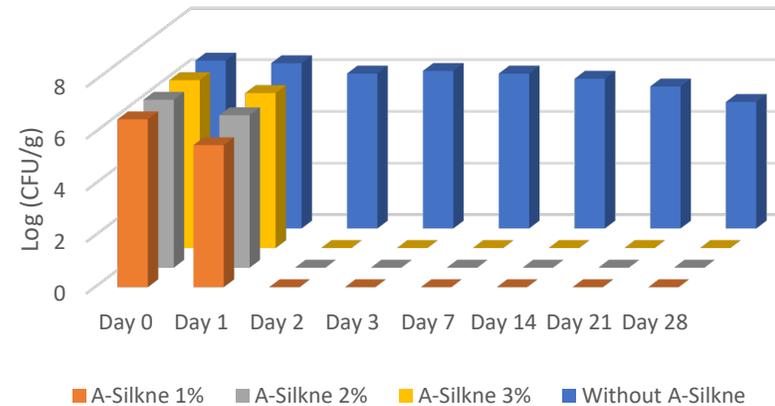
# A-Silkne Test Data

## C. Acnes Elimination Effects in Oil Formulation

Microorganism	ATCC	Culture Medium	Tm (°C)	Condition	Time (Day)
<i>Cutibacterium Acnes</i>	ATCC 6919	Reinforced Clostridial Agar	35	Anaerobic	4-6

Test all the number of strains in the samples on Day 0, 1, 2, 3, 7, 14, 21, 28

Phase	Ingredients	Content (% w/w)
A	Helianthus Annuus Seed Oil	Up to 100
	Caprylic/Capric Triglyceride	25
	Hydrogenated Polydecene	25
B	Copernicia Cerifera (Carnauba) Wax	8
	Candelilla Cera	8
	Microcrystallin Wax	8
C	A-Silkne	1-3



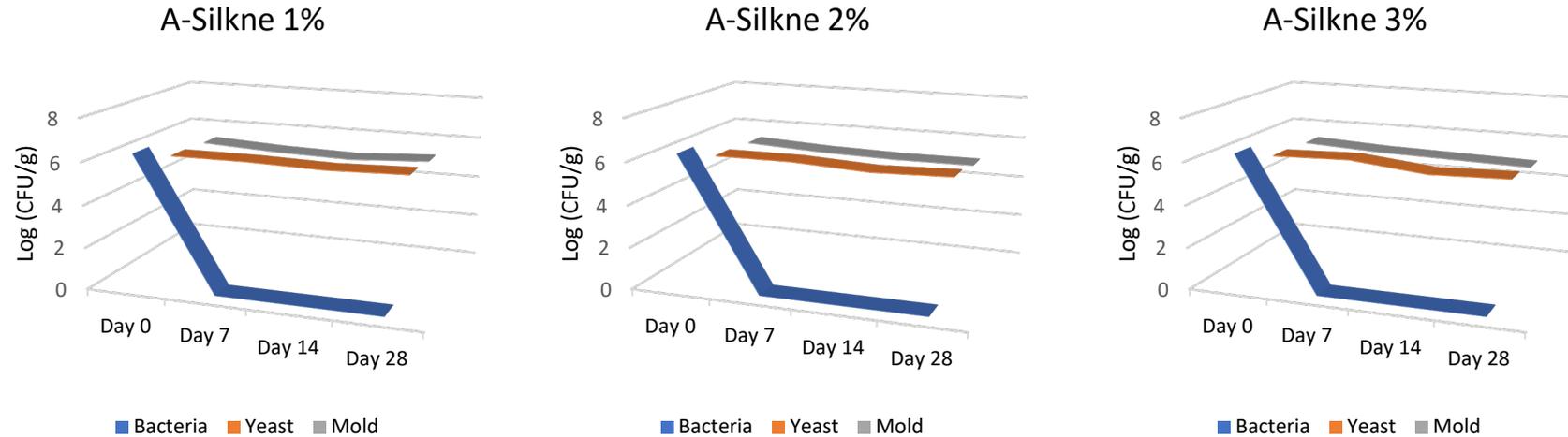
	Inoculation (cfu/ml)	Log reduction							
		D 1	D 2	D 3	D 7	D 14	D 21	D 28	
Oil Formulation (A-Silkne Not Applied)	3.0X10 <sup>6</sup>	0.1	0.5	0.4	0.5	0.7	1.0	1.6	
A-Silkne	1%	3.0X10 <sup>6</sup>	1.0	6.5	6.5	6.5	6.5	6.5	6.5
	2%	3.0X10 <sup>6</sup>	0.6	6.5	6.5	6.5	6.5	6.5	6.5
	3%	3.0X10 <sup>6</sup>	0.5	6.5	6.5	6.5	6.5	6.5	6.5

→ *C. acnes* eliminated 99.9999% in just two (2) days in oil balm

→ *C. acnes* not proliferated for one (1) month

# A-Silkne Test Data

## Antiseptic Effect Test in Oil Formulation



- Microorganisms used and products test procedure (PCPC 2018 guideline)
- Test all the number of strains in the samples on Day 7, 14, 28

	Culture	ATCC	Culture Medium	Tm (°C)	Time (hr.)
Bacteria	<i>Staphylococcus aureus</i>	ATCC 6538	Tryptic Soy Agar (TSA)	35	48
	<i>Escherichia coli</i>	ATCC 8739			
	<i>Pseudomonas aeruginosa</i>	ATCC 9027			
Yeast	<i>Candida albicans</i>	ATCC 10231	Potato Dextrose Agar (PDA)	24	120
Mold	<i>Aspergillus brasiliensis</i>	ATCC 16404			

→ Great antiseptic effects on bacteria in oil balm (99.9999% eliminated in the first week)

# A-Silkne Test Data

## Inhibition of Proliferation of Mold on Makeup Puff

- A-Silkne 0% / 2% / 5% (in Sunflower oil)
- *A. brasiliensis* (skin microbial) injected and cultured for 2 months after applying the above three experimental groups to makeup puff evenly



A-Silkne 0%



A-Silkne 2%



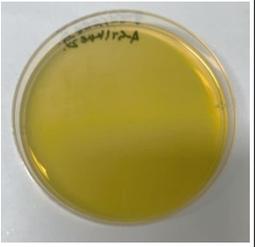
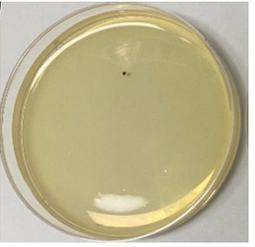
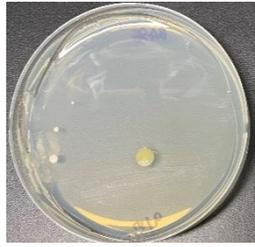
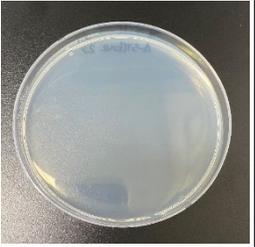
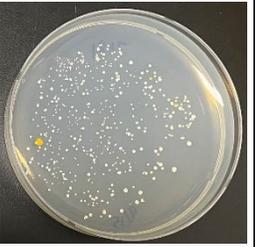
A-Silkne 5%

→ The inhibition of the proliferation of mold on A-Silkne-applied makeup puff confirmed

# A-Silkne Test Data

## Inspection of Fungi and Bacteria on the Surface of Oil Balm

- 2 different multi-balm products, oil balm base and oil balm on the market + 2% A-Silkne
- The above four experimental groups applied to skin multiple times and stored at room temperature for a day; then fungi on the product surface inspected by rubbing and culturing them on TSA (bacteria) and PDA (fungi) media

	Oil Balm Base	Oil Balm + A-Silkne 2%	Multi-balm A	Multi-balm B
TSA (Bacteria)				
	47 CFU	0	1 CFU	TNTC
PDA (Fungi)				
	5 CFU	0	1 CFU	TNTC

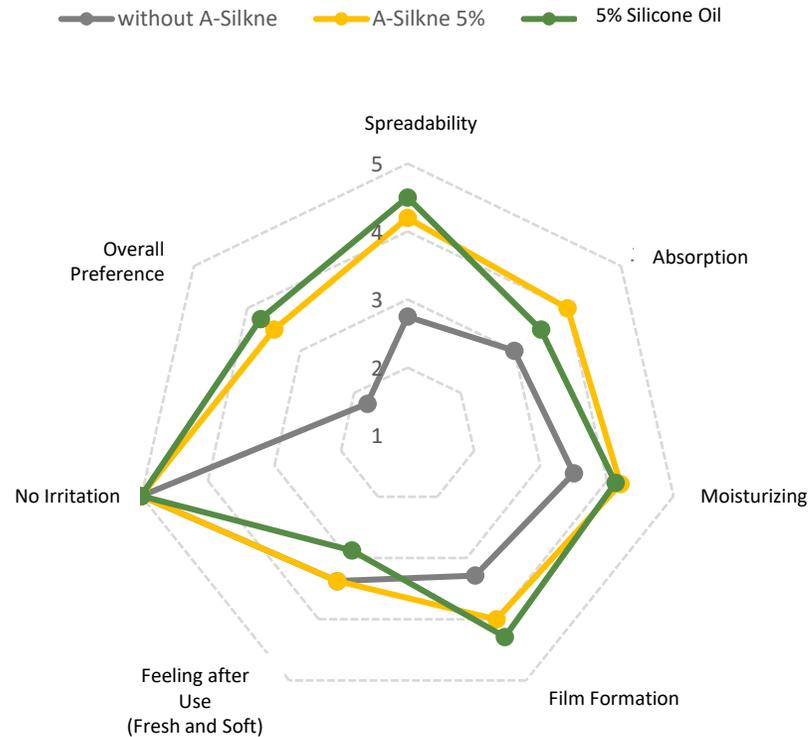
→ Able to prevent bacterial and fungal contaminations on oil balm with A-Silkne

→ A possibility of bacterial and fungal contaminations if 'A' and 'B' products on the market are continuously used

# A-Silkne Test Data

## Feeling-after-Use Comparison

- Sample: Oil balm (A-Silkne not applied (placebo), 5% A-Silkne, 5% silicone oil)
- Testee: Aged 20-50s, men/women, 10 people
- Test Method: A questionnaire survey performed after applying it onto the back of hands



### Sensory Cosmetics

As more people want to eliminate stress and anxiety from external environments and enjoy relaxation, sensory experiences and environments as well as the efficacies of cosmetics have become important. Under these circumstances, cosmetics are required to offer the best experiences in all aspects (touch, smell and look). As a result, there has been a rising demand for alternative materials which give equivalent satisfaction even without artificial flavors and silicone oil in convergence with consumer needs on 'clean beauty'.

	5 Points	~	1 Point
Spreadability	Very Good	~	Very Bad
Absorption	Very Good	~	Very Bad
Moisturizing	Very Good	~	Very Bad
Film Formation	Very Good	~	Very Bad
Feeling after Use	Fresh and Soft	~	Sticky
Irritation	No Irritant	~	Irritating
Overall Preference	Very Good	~	Very Bad

- Improvements in spreadability, absorption, moisturizing and film formation with A-Silkne in comparison to oil balm (placebo)
- With A-Silkne, improvements in feeling after use close to the level when the same amount of silicone oil is applied; feels fresher and softer

# A-Silkne Test Data

## Safety (Single Patch Test)

A sample was patched on the back against 30 adult testees aged 20-60. In 24 hours, the patch was removed, and symptoms such as red spots and swelling were visually inspected. Then, test results were analyzed in consideration of primary cutaneous irritation index (PCI) and sample types.

		P.C.I	Conclusion
A-Silkne	2% (in squalene)	0.00	No Irritant
	10% (in squalene)	0.00	No Irritant
	100%	0.02	No Irritant
Squalene		0.00	No Irritant

The PCI was calculated according to the following formula:

$$PCI = \frac{\sum \text{Grade of each subject}}{\text{Number of subjects} \times \text{number of readings}}$$

### Skin Irritation Assessment Standards

Skin irritations caused by the samples were classified based on the estimated PCI values according to the following standards. Then, the results were judged, considering the characteristics of samples:

P.C.I.	APPLICATION
$0 \leq P.C.I \leq 0.05$	No Irritant
$0.05 < P.C.I \leq 0.15$	Slight Irritant
$0.15 < P.C.I \leq 0.5$	Moderate Irritant
$> 0.5$	Strong Irritant

Report No.: 21-K169350RP\_P1\_v01  
Report No.: 21-K169350RP\_P2\_v01

Testing Lab: IEC KOREA CO., LTD.

# A-Silkne Application



#Acne Skin #Coverage Makeup

Salicylic acid used in acne care reduces acne symptoms by removing sebum and dead skin, not by inhibiting C. acnes. Therefore, it could cause dryness and irritation due to excessive peeling. With antimicrobial effects on C. acnes (refer to #2 test data), A-Silkne is even good for sensitive acne skin. In particular, it is applied to acne mark-covering products, preventing acne from recurring or worsening.



#COVID-19 Era #Maskne

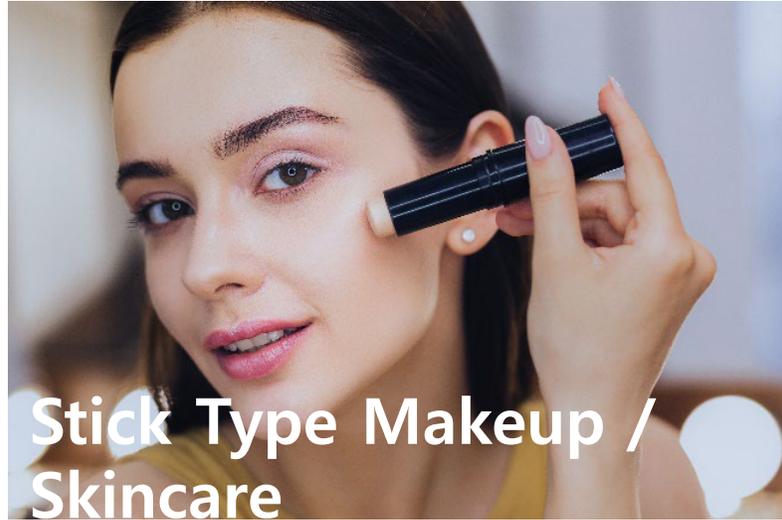
Wearing a mask for long hours can cause inflammation and irritation by disrupting skin breathing. In addition, clogged pores can develop into cysts. Friction with a mask impairs a skin barrier and worsens skin irritations, which is called, 'Maskne (perioral dermatitis)'. In the With-COVID-19 Era when wearing a mask is critical, it is required to prescribe materials which can reduce skin burden.



#Acne Coverage #Long Anti-inflammatory Effects

A spot patch is available in two different types: an acne patch applied onto acne, slowly alleviating the symptom; a patch used to prevent acne mark formation. It is anticipated that applying A-Silkne to spot patches would enhance antimicrobial and anti-inflammatory effects.

# A-Silkne Application



## #Hygiene #Clean-beauty Makeup

In makeup products, stick types are common, including stick multi-balm which has recently earned a great popularity due to convenience of use, foundation, concealer and lipstick. These stick products are mostly made with oil so that they are low in water activity. As they are used repeatedly, bacteria become proliferated with contaminants such as dirt and sebum remaining on the skin. Therefore, anti-inflammatory substance is required to prevent skin irritations caused by repetitive exposure to bacteria and sebum.



## #Lip & Eye #Stick Type #Makeup

Among color makeup products, mascara and lipsticks which are put back into a sealed container after use are vulnerable to bacterial growth. Since such products are applied onto sensitive eyes and lips, it is required to prescribe safer ingredients.



## #Cosmetics for Children #For Teens Only

In the past, in cosmetics specially produced for youth at stationeries and convenience stores, hazardous heavy metals were found. Since then, parents have closely watched the ingredients of cosmetics for their children. In addition, teens tend to share their items such as lip balm and tint with their friends and not pay too much attention to hygiene. Therefore, it is needed to watch them more carefully. Therefore, it is required to apply ingredients which are safe from external bacteria and contaminants to the makeup products for children and youth.

# A-Silkne Application



## #Acne Skin #Makeup

In sunscreen which is now essential all the year round and primers and fixers which enhance makeup adhesion and durability, safety and spreadability are important. In particular, primers which are used to fill gaps between pores can cause skin irritations.

With the expansion of 'clean beauty', there has been a rising demand for ingredients which can substitute silicone or be used as boosters. It is anticipated that A-Silkne would reduce white cast formation in sunscreen and enhance feeling after use through improvements in spreadability.



## #Acne Skin #Clean Beauty #Emulsifier

In the past, PEG and PPG surfactants which are cheap but have great emulsifying and cleansing effects were mostly used in cleansing oil. Recently, however, they have been replaced by better ingredients. In A-Silkne, heptyl undecylenate works as an emulsifier. With the anti-inflammatory effects of *Magnolia officinalis* bark extract, it is applicable to the cleansing oil specially designed for acne and irritated skin.

# A-Silkne

- Anti-acne
- Anti-inflammatory
- Natural
- Plant-derived
- Light & silky feel
- COSMOS approved
- Vegan Certification
- Patented

