

Beat the Heat, Boost the Glow

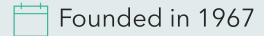
Alkaloids Bioactives

X

Chemrez

Who are we?

Alkaloids Bioactives is one of the leading manufacturers of Cosmeceuticals, Pharmaceuticals and Nutraceuticals. We manufacture and export high-quality plantbased actives.



- Hyderabad, India
- www.alkaloidsbioactives.com









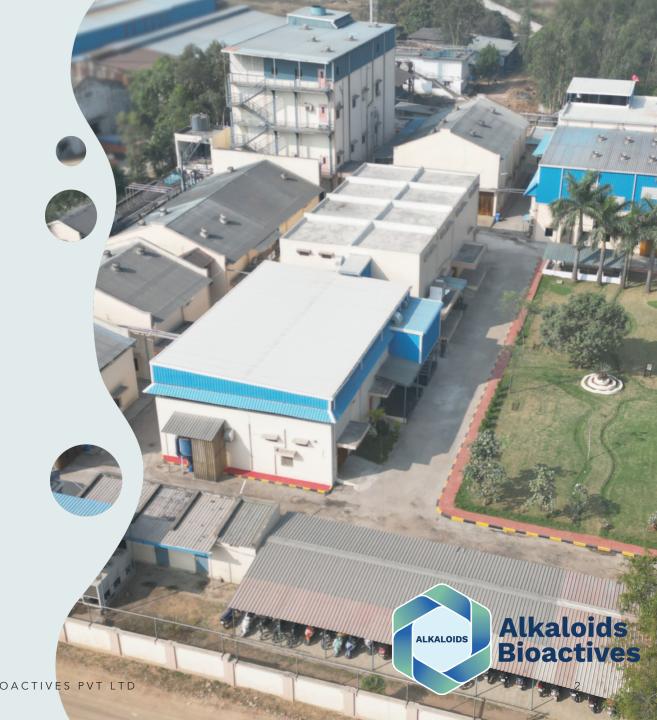












Manufacturing Capabilities



STRONG SUPPLY CHAIN

Strong supply chain for sourcing of botanicals. We have contract farming arrangement with cultivators in parts of rural India, Africa etc.



PRODUCTION

We have 10 production blocks with dedicated blocks for APIs, Nutraceuticals and Cosmeceuticals. Fermentation facility is available for bio-conversion of molecules. The total herb extraction capacity of our plant is 1200 MT/annum. The production is carried out strictly as per cGMP guidelines.



QUALITY CONTROL

We have a well-equipped laboratory with all required instruments for release of our products to the market. Instruments are 21 CFR Part 11 compliant.



REGULATORY COMPLIANCE

Our facility has been inspected and approved by **USFDA**, **TGA**, **CDSCO**, **AYUSH etc**.

We were inspected by USFDA in Feb 2024. The outcome was satisfactory with zero 483 Observation.



RESEARCH & INNOVATION

We have a strong focus on research and development of new and innovative products. We also manufacture customized extracts



TECHNICAL COMPETENCE

We have a team of qualified and trained phytochemists and analytical chemists who are engaged in the development, production and standardisation of products

Bridging the Gap



Capturing trends and user data from Philippines, South Korea, Thailand, UK/Europe and USA.



Ingredient Manufacturer

We understand user needs,
Study market trends and
Manufacture high quality plantderived ingredients in its purest
form.



Based on market data and trends we recommend ingredients and possible formats to formulators.

The Rise of Natural Ingredients in Beauty

NATURALNESS DEFINES QUALITY

35%

of <u>US consumers</u> who use skincare products at home agree the presence of natural/clean ingredients indicates that an item is good quality

LOOK FOR NATURAL ALTERNATIVES

31%

of <u>Philippines consumers</u>* have replaced a regular beauty and grooming product with a natural/organic version in the last three months

UPGRADE OPPORTUNITY

59%

of <u>Thai consumers</u> would be willing to pay more for skincare products with natural extracts

Focus Ingredients



BAKUCHIOL

Trend: Slow Ageing



PONGAMOL

Trend: Natural SPF Booster



CENTELLA ASIATICA (WATER SOLUBLE)

Trend: Hydrating and Soothing

BAKUCHIOLSLOW AGEING



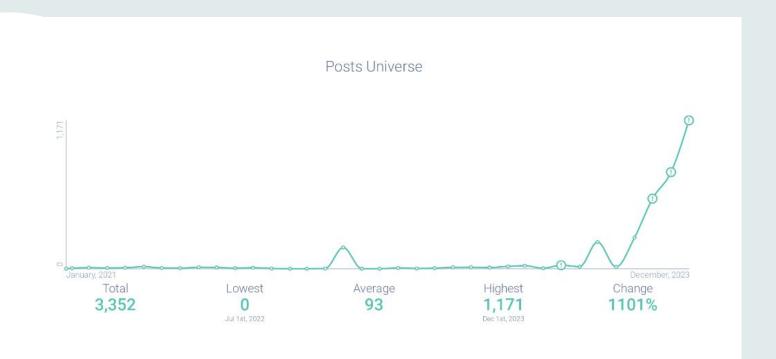
16.5%

of skincare launches in Philippines claim to have <u>anti-ageing / slow-ageing benefits</u>

What is Slow-Ageing?

Slow ageing is a beauty philosophy that promotes embracing healthy and natural beauty without viewing the ageing process negatively. Slowageing skincare specifically targets the delay of skin ageing.

This concept has recently gained traction on social media platforms, with an emerging trend of advocating for slow ageing rather than promoting anti-ageing, aimed at younger generations in particular.



The number of social media posts around slow ageing.

The Healthy-Ageing Trend



Topics around slow ageing on social media

On social media, slow ageing isn't just about skincare benefits like elasticity and wrinkle reduction – it's also tied to overall health. It encompasses a holistic approach involving lifestyle practices, skincare routines and dietary habits.

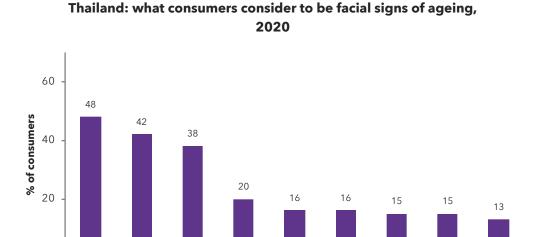
With South Korea's emphasis on preventive skincare – 72% of South Koreans* say they take <u>a preventative approach</u> to beauty and skincare – this concept is likely to gain widespread acceptance.

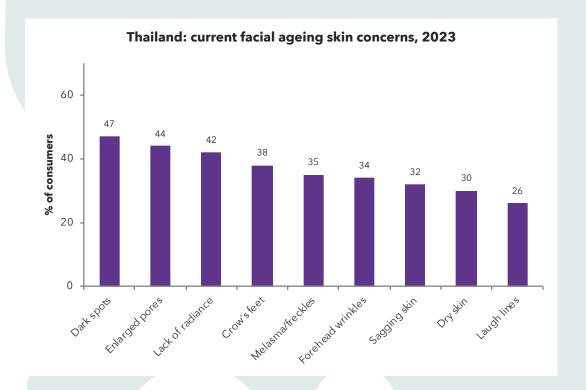


Brands can broaden their scope by offering products and content that address various wellness aspects such as nutrition, sleep and stress management in addition to skincare. This will promote inclusivity and challenge conventional beauty standards, allowing brands to connect with a wider audience.

Evolving Aging Concerns: From Wrinkles to Dark Spots & Texture

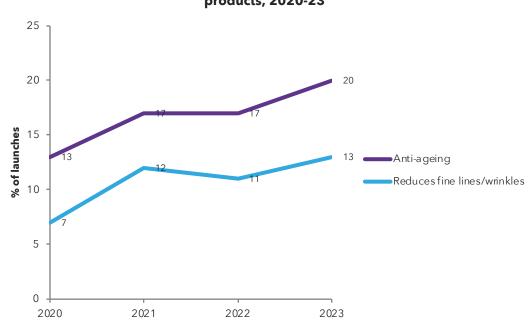
Concerns about signs of ageing have shifted from prominent ones like wrinkles and a loss of elasticity to more premature ones like dark spots and skin texture.

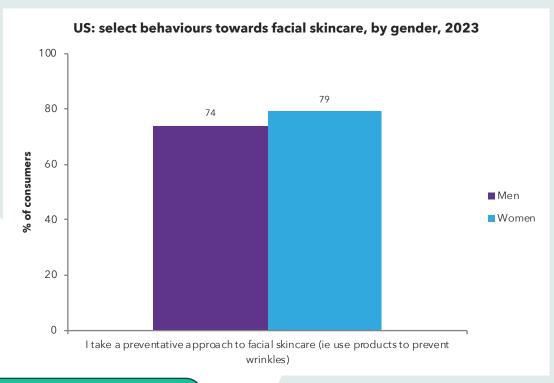




The Rise of Anti-ageing claims in the

Select markets: select claim trends in new men's skincare products, 2020-23





Formulation Insight

The men³s anti-aging skincare market is also substantial, with men and women holding an almost equal share of concerns about aging.

Bakuchiol's Glow-Up: Steady Growth Across Regions!

Select Regions: skincare launches by share of select ingredients, 2020-2024

		Year					
		2020	2021	2022	2023	2024	Total
Region	Ingredient	%	%	%	%	%	%
Europe	Subtotal	100%	100%	100%	100%	100%	100%
	Retinol	0.9%	0.9%	1.0%	1.4%	1.4%	1.1%
	Bakuchiol	0.4%	0.8%	1.2%	1.3%	1.3%	1.0%
Asia Pacific	Subtotal	100%	100%	100%	100%	100%	100%
	Retinol	0.7%	1.0%	1.1%	1.4%	2.0%	1.3%
	Bakuchiol	0.0%	0.3%	0.4%	0.8%	1.0%	0.5%
North America	Subtotal	100%	100%	100%	100%	100%	100%
	Retinol	1.8%	2.0%	2.6%	2.2%	2.9%	2.3%
	Bakuchiol	1.2%	1.4%	1.4%	1.9%	1.9%	1.6%

Bakuchiol vs Retinol: A Gentler Alternative

Feature	Retinol	Bakuchiol
Skin Sensitivity	Can cause irritation, redness, and peeling	Gentle, less likely to cause irritation
Sun Sensitivity	Increases photosensitivity, requiring strict SPF use	No photosensitivity, safe for daytime use
Usage	Needs gradual introduction; not safe during pregnancy	Safe for daily use
Collagen Boosting	Stimulates collagen, but may irritate	Boosts collagen without irritation
Anti-Inflammatory	Can cause inflammation	Naturally soothing and anti-inflammatory
Skin Barrier Impact	May weaken the skin barrier over time	Helps strengthen and retain moisture
Suitability	Best for resilient skin, may require buffering	Suitable for all skin types, including sensitive skin

Published research and Ayurveda Evidence

Source: Journal of Drugs in Dermatology

Clinical Evaluation of a Nature-Based Bakuchiol Anti-Aging Moisturizer for Sensitive Skin

Zoe Diana Draelos MD,^a Hemali Gunt PhD,^b Joshua Zeichner MD,^c Stanley Levy MD^d
^aDermatology Consulting Services, PLLC, High Point, NC
^bBurt's Bees, Durham, NC
^cMount Sinai Hospital, New York, NY
^dChapel Hill Dermatology, PA, Chapel Hill, NC

Source: International Journal Of Cosmetic Science

International Journal of Cosmetic Science, 2014, 1-10

doi: 10.1111/ics.12117

Bakuchiol: a retinol-like functional compound revealed by gene expression profiling and clinically proven to have anti-aging effects

R. K. Chaudhuri* and K. Bojanowski[†]

*Sytheon Ltd., Boonton, NJ 07005, USA and †Sunny Biodiscovery, Santa Paula, CA 93060, USA

type III collagen in the mature fibroblast model. Bakuchiol was also formulated into a finished skin care product and was tested in clinical case study by twice-a-day facial application. The results showed that, after 12 weeks treatment, significant improvement in lines and wrinkles, pigmentation, elasticity, firmness and overall reduction in photo-damage was observed, without usual retinol therapy-associated undesirable effects.

Results: Bakuchiol and retinol both significantly decreased wrinkle surface area and hyperpigmentation, with no statistical difference between the compounds. The retinol users reported more facial skin scaling and stinging.

Source: Journal of Integrative Dermatology

Topical bakuchiol can act as a functional analog of retinol and has additional antioxidant properties that are enhanced when formulated with other antioxidants. It demonstrates clinically significant similarity to topical retinol in efficacy and superiority in tolerability and safety. Topical bakuchiol may be considered as a key ingredient in skincare formulations for individuals who have sensitive skin who may not tolerate topical retinoids and those who are seeking natural antioxidant products. While concrete clinical evidence is insufficient to make definitive claims on pregnancy safety, bakuchiol can be considered a safer option for those who are pregnant, nursing and trying to conceive based on mechanism of action.

Source: Drug and Cell Therapies in Hematology

The Indian medicinal plant *Psoralea corylifolia* has been used in the traditional Ayurvedic system of treatment for thousands of years. In classical Ayurvedic sources, it is referred to as '*Bakuchi*'. It is also referred as *Kustanaghini ,Kustanashini* due to its potent effect in skin disorders. It's

effective in Alzehimer's disease and alopecia areata. Various formulations are present in market such as *babchi churna*, *psoralea ointment*, *babchi oil*, *bakuchi capsule*, *bakuchi vati*, *somaraji taila* & *avalgujadi lepa*. So, an attempt has been made in this article to gathered all the possible significant information about the *Bakuchi*.

A comprehensive review of topical bakuchiol for the treatment of photoaging" (A comprehensive review of topical bakuchiol), which analyzed multiple studies and confirmed Bakuchiol's efficacy in improving photoaging with minimal side effects.

Bakuchiol-Powered Products

The plant-derived retinol alternative without the negative effects has anti-ageing benefits and is suitable for sensitive skin types.



Plant-based retinol

Human nature sunflower beauty oil

- With bakuchiol, a plant-based retinol for firmer, brighter, youthful-looking skin
- With plant-based retinol, that helps reduce the appearance of fine lines and wrinkles
- Powered by the face miracles of sunflower oil that lightens and moisturises skin for a more youthful-looking complexion (Philippines)



A natural retinol from babchi

The skin collection bakuchiol retinol alternative serum

- A potent antioxidant and helps fight sign of ageing such as wrinkles and fine lines
 - reduce premature skin ageing (Thailand)



For acne-prone skin
Inika bakuchiol serum natural
retinol alternative reduces
hyperpigmentation, inflammation,
fine lines, wrinkles and acne and
helps accelerate cell turnover (UK).

Bakuchiol By Alkaloids Bioactives

Product: Bakuchiol 99%

Source: Psoralea corylifolia seeds

INCI Name: Bakuchiol CAS No.: 10309-37-2



S. No.	Test Parameter	Specification	Results
1	Description	Reddish yellow to Light yellow colored oil.	Complies
2	Identification		
	a) By HPLC	Retention time of the peak due to Bakuchiol in the sample chromatogram should match with that of the corresponding peak in the standard chromatogram	Complies
	b) By TLC	Spot due to Bakuchiol in the sample track should match with that in the standard track	Complies
3	Solubility	Soluble in Hexane & Ethyl acetate	Complies
4	Moisture Content	NMT 0.6% w/w	0.49%
5	Assay: Content of Bakuchiol (by HPLC)	NLT 99.0% w/w (On as is basis)	99.23%
6	Sulphated Ash	NMT 0.5%	0.02%
7	Impurity Profile Psoralen and IsoPsoralen (Angelicin)	NMT 25 ppm	1.0 ppm
8	Heavy Metals: Lead Arsenic Mercury Cadmium	NMT 3 ppm NMT 1 ppm NMT 0.1 ppm NMT 1 ppm	Complies Complies Complies Complies
9	Microbiological Analysis: a) Total aerobic microbial count b) Total combined Yeast and mould count c) Candida albicans	a) NMT 100 cfu/g b) NMT 10 cfu/g c) should be absent in 1 g	Complies Complies Complies
	d) Escherichia coli e) Pseudomonas aeruginosa f) Staphylococcus aureus g) Salmonella	d) should be absent in 1 g e) should be absent in 1 g f) should be absent in 1 g g) should be absent in 10 g	Complies Complies Complies Complies

BENEFITS:

✓ Similar anti-aging benefits as retinol

✓ No irritation, peeling, or redness

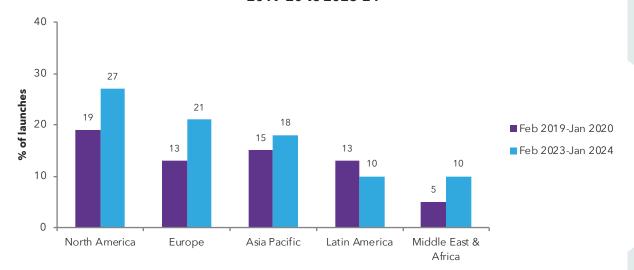
✓ Safe for both day & night use

✓ A natural, plant-based alternative aligning with clean beauty trends

Growing concerns about photoageing

Consumers in the US are more concerned about the sun's effect on premature ageing than on its link to skin cancer. This bodes well for anti-ageing claims in sunscreen, but it's important for brands to continue to educate consumers on the health/cancer risks of increased sun exposure, especially as temperatures rise due to climate change.

Global: share of sunscreen launches with anti-ageing claims, by region, 2019-20 vs 2023-24



AGEING CONCERNS

49%

of US consumers are applying sunscreen more often because of concerns about ageing (vs 47% because of skin cancer concerns)

Formulation Insight

To be more inclusive and empowering, brands can take a more-positive-ageing approach. For example, brands could stress 'wrinkle care' vs 'anti-wrinkle', and ensure older models are used in advertising.

Sun care innovations containing Bakuchiol and delivering anti-ageing benefits



Vely vely bakuchiol super mild sun screen SPF 50+/PA++++

- Contains bakuchiol, panthenol, eight types of hyaluronic acid, three low collagen and is 100% mineral sunscreen with a smooth and light finish like a thinly wrapped lotion on the skin
- Functional cosmetics with brightening, wrinkle care, and UV protection properties (South Korea)



Éminence organic skin care radiant protection SPF fluid SPF 30

- Vegan friendly all mineral sunscreen with bakuchiol and niacinamide provides SPF 30 broad spectrum protection from UVA and UVB rays
- Bakuchiol, a powerful alternative to conventional retinol, derived from the babchi plant, helps to prevent and minimize signs of aging, reduces fine lines and wrinkles (USA)



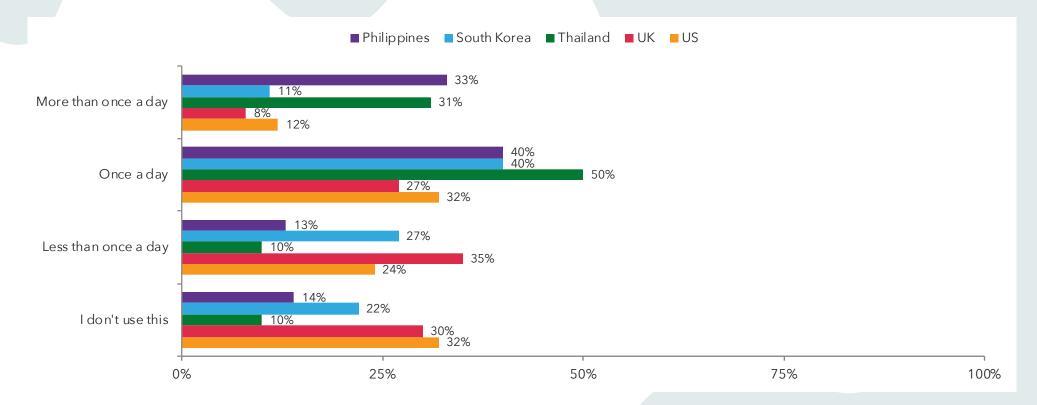
Burt's bees renewal firming day lotion SPF 30

- Lightweight mineral sunscreen
- Get the benefits of mineral sun protection and bakuchiol (USA)

PONGAMOL NATURAL SPF BOOSTER

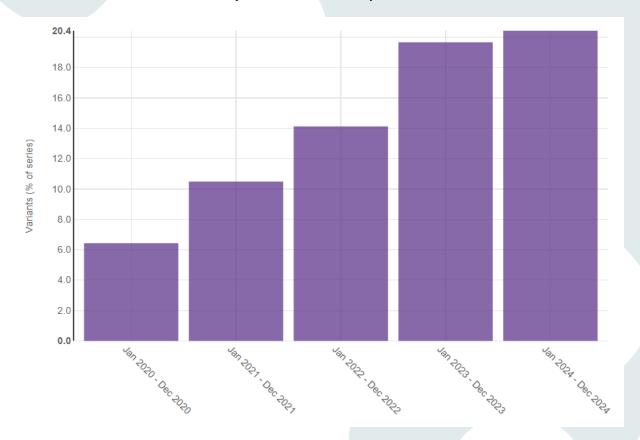
Sunscreen: A Daily Essential for South Asian Consumers

Select markets: frequency of facial skincare (sun protection) products, 2024

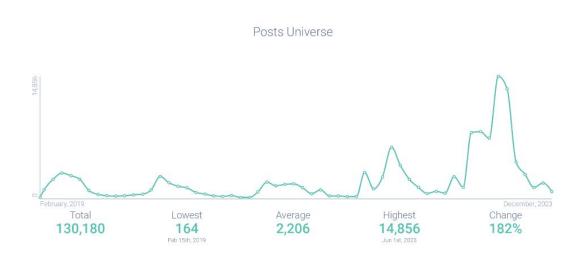


Rising Demand for UV Protection Claims in the Philippines

Philippines: skincare launches by share of UV protection claims, 2020-2024



Anticipate increased opportunities in suncare (South Korea)



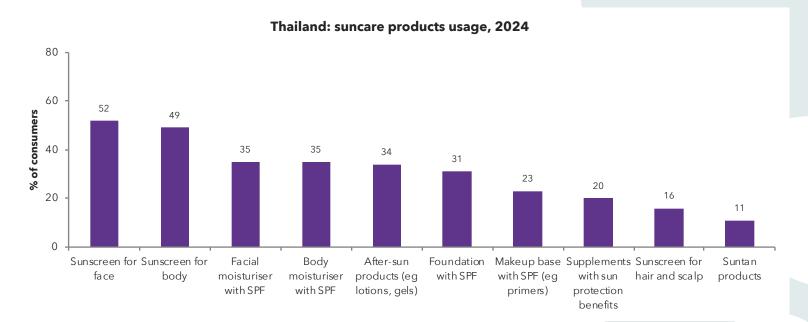
The number of social media posts around sun care

Since the summer of 2023, there has been a significant surge in social media discourse around sun care. This trend highlights a growing consumer inclination towards sun protection, likely stimulated by the resurgence of outdoor activities following the easing of pandemic restrictions.

This trend will continue to strengthen in the foreseeable future, also emphasising the importance of convenient features in sun care products.

Incorporating SPF: Different Formulation Approaches

This section explores the growing opportunity in facial sun care, including sunscreen and facial moisturizers with SPF. While traditional sunscreens remain widely used, global trends highlight a vast potential for SPF integration across various formulations, including body care and color cosmetics.



Similar trends have been observed in the US with

51%

Users claiming to use Skincare with SPF daily.

[12 Months US Consumer Report, November 2023]

Published research and Ayurveda Evidence

effective in the UVA region. The pongamia pinnata extract can be used to formulate highly effective sunscreen preparation as it will enhance and effectively contribute to the UV absorbing properties of a conventional sunscreen. It will also help in broadening the UV protection ability of the sunscreens along with the greatest advantage of avoiding adverse and undesired effects of synthetic sunscreen compounds.

Pongamol Prevents Neurotoxicity via the Activation of MAPKs/Nrf2 Signaling Pathway in H₂O₂-Induced Neuronal PC12 Cells and Prolongs the Lifespan of Caenorhabditis elegans

Exploring the phytoconstituents targeting TNF- α as potential lead compounds to treat inflammatory diseases: an *in-silico* approach

Sumit Arora (Assistant Professor) ¹ △ ☑, Pallavi Rushiya ², Kalpana Tirpude ², Nidhi Sapkal ², Subhash Yende ³, Abhay Ittadwar ¹, Sapan Shah ⁴

In vitro studies, like "Pongamol Prevents Neurotoxicity via MAPKs/Nrf2 Signaling" (PubMed: 38483657), demonstrate its ability to activate antioxidant pathways, which could translate to protecting skin cells from UV damage or pollution.

Exploring the phytoconstituents targeting TNF- α as potential lead compounds to treat inflammatory diseases: an in-silico approach

Pongamol Powered Sunscreen Innovations



Aroma-zone mineral sunscreen lotion SPF 30

- With organic passion fruit oil
- Fluid milk texture, non-greasy, protects against UVA and UVB without leaving white marks
- Reflects UV rays and stays on the skin's surface
- 100% natural origin, 21% organic (france)



Naïf baby & kids mineral sunscreen SPF 50

- For all skin types
- Water-resistant
- Immediate protection
- Free of oxybenzone, octinoxate, octocrylene, microplastic (netherlands)



Kopari bright as day sheer mineral sunscreen SPF 50

- Sheer 100% mineral SPF 50 to protect against UVA and UVB rays
- Niacinamide smooths and strengthens the skin barrier, diminishing dullness for a healthier complexion
- Astaxanthin hydrates and protects skin, improving dryness and mitigating sun damage (UK)

Pongamol By Alkaloids Bioactives

Product : Pongamol 95%

Source: *Pongamia pinnata* seeds

INCI Name : Pongamia pinnata Seed

Extract

CAS No.: 484-33-3



S. No.	Test Parameter	Specification	Result
1	Description	Creamy White Powder	Complies
2	Identification		
	a) By HPLC	Retention time of the peak due to	Complies
		pongamol in the sample	
		chromatogram should match with	
		that of the corresponding peak in	
	b) By TLC	the standard chromatogram Spot due to pongamol in the sample	Complies
	b) By ILC	track should match with that in the standard track	Compiles
3	Solubility	Soluble in Ethyl Acetate. Insoluble in Water	Complies
4	Loss on drying	NMT 3.0% w/w	1.75%
5	Melting Range	124.0-130.0°	127.4°C
6	Particle size	NLT 95% passes through 40 mesh	Complies
7	Content of Pongamol (by HPLC)	NLT 95% w/w (on dry basis)	97.67%
8	Heavy Metals		
	a) Lead	a) NMT 3 ppm	Complies
	b) Arsenic	b) NMT 1 ppm	Complies
	c) Mercury	c) NMT 0.1 ppm	Complies
9	d) Cadmium	d) NMT 1 ppm	Complies
9	Microbiological Analysis: a) Total aerobic microbial count	a) NMT 100 cfu/g	10 cfu/g
	b) Total combined Yeast and mold	b) NMT 10 cfu/g	<10 cfu/g
	count	o) Timil to clarg	10 clarg
	c) Candida albicans	c) should be absent in 1 g	Absent
	d) Escherichia coli	d) should be absent in 1 g	Absent
	e) Pseudomonas aeruginosa	e) should be absent in 1 g	Absent
	f) Staphylococcus aureus	f) should be absent in 1 g	Absent

BENEFITS:

✓ Absorbs **UVA & UVB rays**, making it an effective natural sunscreen.

✓ Helps prevent photoaging, pigmentation, and oxidative stress.

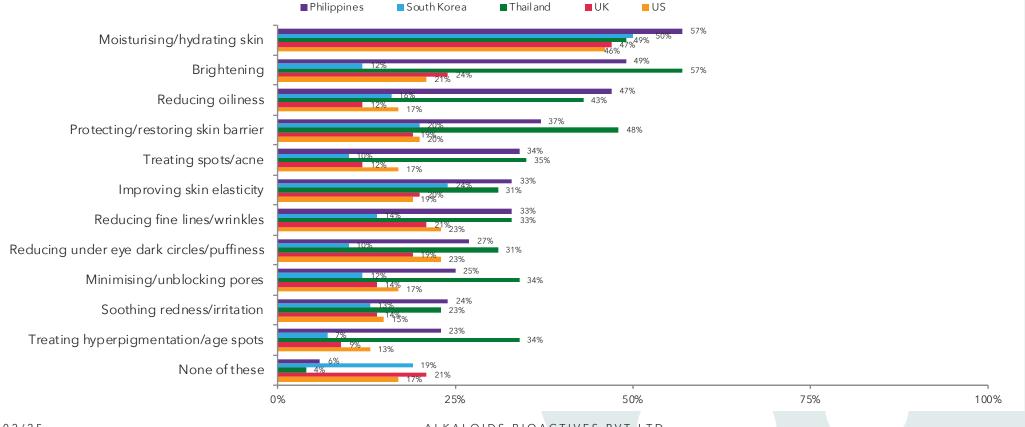
✓ Less irritating than chemical UV filters.

✓ Works well with other Filters and enhances protection in formulations.

100% WATER SOLUBLE CENTELLA ASIATICA HYDRATING AND SOOTHING

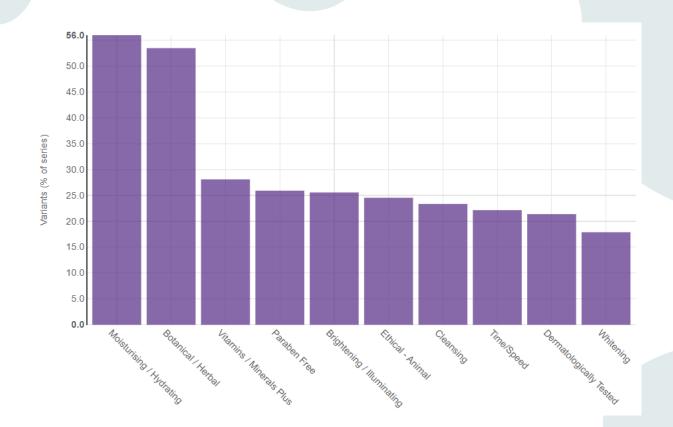
Hydration: The Most Sought-After Skincare Benefit

Consumers prioritize various benefits in their morning facial skincare routines, with hydration ranking the highest both globally and in the Philippines.



Moisturization Leads Skincare Innovation in the Philippines

Philippines: skincare launches by share of top 10 claims, 2020-2024



56%

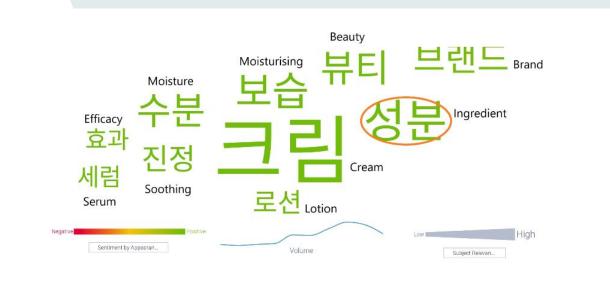
Of the product launched in the Philippines between 2020-2024 claimed "Hydration" to be the key benefit.

Aligning with Consumer Interest: Ingredients & Efficacy Matter

South Korean consumers clearly have a vital interest in skincare ingredients.

On social media, there is an obvious association between skincare, ingredients and effects such as **hydrating and soothing.** Further, 50% of South Korean women* aged 45+ agree that high-quality ingredients encourage them to buy a beauty product at full price rather than at a discounted price.

Prioritise transparent communication on ingredients, emphasising their skincare benefits.



Top 10 social media topics around skincare

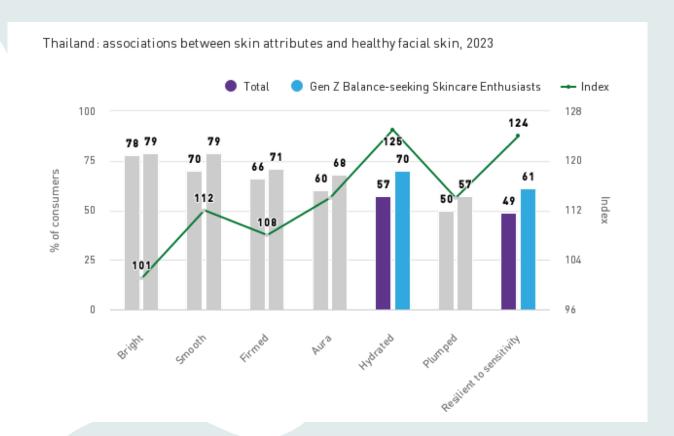
Hydrated Skin = Healthy Skin

Gen Z balance-seeking skincare enthusiasts strongly associate healthy facial skin with hydration and a resilience to sensitivity.

Specifically, 70% link hydration with healthy skin and 61% with a resilience to sensitivity, overindexing at 125 and 124, respectively.

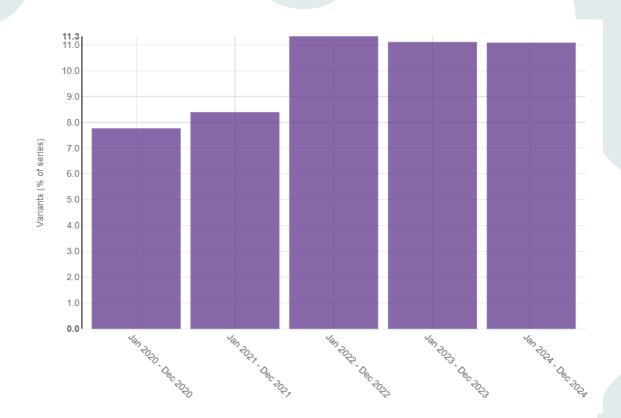
Formulation Insight

This indicates a significant emphasis on these attributes compared to the total population. The brand can focus on these two when delivering skin-condition-balancing solutions.



CICA Extract- The Long-Standing Hero

Philippines: skincare launches by share of Centella Asiatica Extract, 2020-2024



11.3%

Of the product launched in the Philippines between 2020-2024 had Centella asiatica Extract

Regular CICA vs Water Soluble CICA

Feature	Centella asiatica 95%	Water soluble Centella asiatica	
Usage	Broader benefits of Hydration, Antiageing and Skin barrier repair.	Increased focus on hydration and soothing the skin. Highly beneficial for those with sensitive and acne prone skin.	
Solubility	Partially water-soluble, more soluble in ethanol and oils	100 % Water-soluble	
Assay	0% - Madecassoside 35 – 45% Asiaticoside 57 – 63% Genins	60-70 % Madecassoside 5 – 10% Asiaticoside 2 – 5% Genins	
Formulations	Requires solvents like ethanol or emulsifiers for incorporation into creams, oils and emulsions.	Dissolves well in water-based formulations like sprays, mists, serums, essences and lightweight gels.	

Published research and Ayurveda Evidence

Moisturizing and Antiinflammatory Properties of Cosmetic Formulations Containing Centella asiatica Extract

A Ratz-Łyko 1,*, J Arct 1, K Pytkowska 1

Topical Application of *Centella asiatica* in Wound Healing: Recent Insights into Mechanisms and Clinical Efficacy

<u>Katarzyna Witkowska</u> ¹, <u>Magdalena Paczkowska-Walendowska</u> ^{1,*}, <u>Ewa Garbiec</u> ¹, <u>Judyta Cielecka-Piontek</u> ¹

and 2. In the experiment there was observed a significant increase in hydration of the stratum corneum after the first week application of tested preparations with 2.5 and 5% of Centella asiatica extract. The best results were observed for cosmetic formulations with 5% of Centella asiatica extract. The comparison of emulsion with hydrogel revealed that emulsion

effect of a topically applied formula of 5% vitamin C in the treatment of skin ageing. Another active compound, madecassoside extracted from Centella asiatica, known to induce collagen expression and/or to modulate inflammatory mediators, might thus prevent and correct some signs of ageing. A randomized double-blind study was carried out on photoaged skin of 20 female volunteers to investigate the effects of topically applied 5% vitamin C and 0.1% madecassoside on the clinical, biophysical and structural skin properties. After 6 months of treatment, we observed a significant improvement of the clinical score for deep and superficial wrinkles, suppleness, firmness, roughness and skin hydration. These results were corroborated by measurements of skin elasticity and semi-quantitative histological assessment of the elastic fibre network in the papillary dermis.

"Centella asiatica in cosmetology" (PMC: 3834700) note its use in standardized extracts (e.g., TECA) containing Madecassoside, effective for moisturizing, anti-inflammatory, and anti-aging effects.

Hydration and Soothing: "Moisturizing and Antiinflammatory Properties of Cosmetic Formulations Containing Centella asiatica Extract" (PMC: 4852572) involved 25 volunteers over 4 weeks. Results showed: Increased skin hydration and reduced inflammation with no irritation. Centella extract was well-tolerated, ideal for sensitive or irritated skin.

Spray format skincare applications using CICA extract





Histoire Naturelle Centella Asiatica Soothing Spray

- With 6-fold cica core extract ingredients (centella asiatica leaf extract, centella asiatica extract, asiaticoside, asiatic acid, madecassic acid, madecassoside) as soothing compound
- Helps improve dry and red skin
- Fine and light spray that revitalises continuous soothing prowess (China)

N'pure Cica Beat the Sun Spray SPF 50+ PA++++

- With SPF 50+ and PA++++, completely formulated with 5x UV protection, organic centella extract and ceramide, this product can hydrate, protect the skin barrier, as well as treat acne skin (Indonesia)



Hello Glow Multi-Care Hydrating Face Mist

- Made with hyaluronic acid to keep skin moisturised and radiant - It also contains centella asiatica and chamomile extract to soothe, revitalise and nourish your skin (Philippines)

Water Soluble Centella asiatica By Alkaloids Bioactives

Product: Centella asiatica 80% (Fully

water soluble)

Source: Centella asiatica leaves INCI

Name: Centella asiatica Leaf Extract

CAS No.: NA



S. No.	Test Parameter	Specification	Result
1	Description	An off white to Creamy white coloured powder	Complies
2	Identification		
	a) By HPLC	Retention time of the peak due to Asiaticoside & Madecassoside in the sample chromatogram should match with that of the corresponding peaks in the standard chromatogram.	Complies
	b) By TLC	Spots due to Asiaticoside & Madecassoside in the sample track should match with that in the standard track.	Complies
3	Solubility	Soluble in water, Methanol & Ethanol.	Complies
4	Loss on drying	NMT 4.0% w/w	1.68 %
5	Particle size	NLT 95% Passes through 40 Mesh	Complies
6	Content of Total Triterpene	NLT 80.0% w/w (on dry basis)	80.70%
	derivatives (By HPLC)	a) Madecassoside: 60-70% % w/w b) Asiaticoside: 5-25 % w/w c) Genins: 2-5 % w/w	69.36% 6.90% 4.43%
7	Heavy metals	a) Arsenic: NMT 1 ppm	a) < 0.05 ppm
	(By ICP-MS)	b) Cadmium: NMT 1 ppm	b) $< 0.02 \text{ ppm}$
	(By ICF-IVIS)	c) Lead: NMT 3 ppm	c) $< 0.05 \text{ ppm}$
		d) Mercury: NMT 0.1 ppm	d) $< 0.01 \text{ ppm}$
8	Microbiological Analysis: a) Total aerobic microbial count b) Total combined Yeast and mould count	a) NMT 100 cfu/g b) NMT 10 cfu/g	a) 30 cfu/g b) <10 cfu/g
	c) Candida albicans	c) Should be absent in 1 g	c) Absent
	d) Escherichia coli	d) Should be absent in 1 g	d) Absent
	e) Pseudomonas aeruginosa	e) Should be absent in 1 g	e) Absent
	 f) Staphylococcus aureus 	f) Should be absent in 1 g	f) Absent

BENEFITS:

✓ Soothing & antiinflammatory – calms redness, irritation, and sensitive skin.

✓ Skin barrier repair – strengthens and restores the skin's protective barrier.

✓ **Hydrating** – enhances moisture retention for smoother skin.

✓ Dissolves well in waterbased formulations like sprays, mists, serums, essences, and lightweight gels.

To Summarize....

Attribute	Bakuchiol	Pongamol	Centella asiatica 80% (Water Soluble)	
Image				
Use	Anti-ageing, nature's retinol	Natural UVA/UVB SPF booster	Soothing, moisturizing, skin barrier repair	
Trend	Plant-based retinol alternatives rising, sensitive skin friendly products	Demand for natural sun protection	Popular in calming and moisturizing skincare	
Formulation Benefits	Gentle, non-irritating, stable in formulations	Enhances SPF efficacy, boosts photostability	Easy to use in aqueous formulas, enhances hydration	
Benefits of ABPL Product	High purity, Superior colour, eco-friendly sourcing and produced under strict cGMP Conditions as applicable to Active Pharmaceutical Ingredients			

Thanks for Listening! Let's Discuss.

