

Presidents Message:

Dear Members,
Season's Greetings, we are in the last month of the year. Looking back 2020 will always be remembered as the 'pandemic year', but 2021 will be regarded as the year of Resurrection. Indian Cosmetic industry saw



lot of ups and downs, had to fight with various issues pertaining to logistics, supply chain, commercials, non-availability but at the end we saw a good growth in the cosmetic industry. Several start-up's joined the industry and made huge profits by providing the right products to satisfy the changing needs of the consumers. This year the buzzing words of the industry were Clean Cosmetics, Sustainability, Antimicrobial, Microbiome, Vegan, Natural . The year also saw the introduction of the new Cosmetic Act 2020 which will help in easing and channelling of the cosmetic market in the country while maintaining the quality of the products.

The coming year is going to bring with it several changes and new trends. The year will be a Hopeful year for the colour cosmetic brands. The color of 2022 is 'Very Peri' – or Pantone 17-3938 – the first digitally-created colour of the year, and comprises a complex blend of red violet shades, infused with blue hues. The new buzz words will be Waterless cosmetics, Zero Waste cosmetics, Super Luxury Beauty and Fermented Cosmetics. Emphasis will be on ingredients from homegrown ingredient manufacturers with lot of natural word moving in the industry. Retail beauty Space will again be the big Buzz word with curated spaces and experience centres.

Lets enter the new year with all the hopes and Joy. Wishing everyone a very Fruitful, prosperous and Happy 2022.

Dr. Renuka Thergaonkar

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Review Article On Sunscreen

By- Ishani Jain Student-Bachelor of Cosmetic Technology, IVth yr. L.A.D.College, Nagpur

Abstract

When people think about sun protection or prevention of skin cancer, sunblock readily comes into mind but while up to 1990s, an attractive sun tan was of great significations, great importance has been placed on the protection against excessive sun radiations for quite some time now. The knowledge about the effects of sunlight, especially about the chronic and acute damaged caused by UV radiations has lead to new evaluations of sun protection. Scientist has been researching about benefit and harms provided from sunscreen used, yet a lot of ingredients whose risk have not been fully evaluated.

The article discusses about the, Sunscreen, it's history, SPF (sun protection factor), PA, and it's type and efficacy. Regulations and researchers vary from country to country but to truly prevent the skin cancer and other sunrays related problems the regulators and formulators need to come together to research more and improve public educations.

The history of sunscreen is given in below table

| YEAR | DEVELOPMENT |
|-----------|---|
| 1887 | Tannin was used as a photoprotector |
| 1990's | ZnO, magnesium salts, bismuth were used as photoprotective agent |
| 1928 | First commercial sunscreen with benzyl salicylates and benzyl cinnamate was available in the United States1932First sunscreen invented in Australia by chemist H.A Milton Blake |
| 1936 | L'Oreal released it's first sunscreen product formulated in French chemist Eugene Schueller |
| 1938 | Franz Greiter develops an effective sunscreen in Austria, Gletscher crème1943p-Amino benzoic acid was patented |
| 1956 | Schulze invented SPF |
| 1977 | Water- resistance sunscreen was introduce |
| 1978 | US FDA reclassified sunscreen from cosmetic intended to minimize sunburn and promote tanning to 'OTC drugs' intended to reduces the harmful effects of UV radiations on the skin structure and function |
| 1979 | Avobenzene, a long UVA filter, became available |
| 1989-1992 | Micronized inorganic filters(TiO ₂ in 1989, ZnO in 1992) became available. |

Introduction

Sunscreen are the agents, which were originally developed to prevent sunburn from exposure of sunlight. These products were designed to protect from UV B rays that causes sunburn but had little effects on the UVA. Increasing awareness of the damaging effects of sunlight has lead to a significant demand for improving photo protection by tropical applied sunscreen agents. Today sunscreens are expected to protect not only against sun burn, but also against long term damaging effects from UVA.

History (2,3,4)

The development of the sunscreen has come a long way, from when negative health effects of prolonged exposure to the sun's ultraviolet rays in the late 1800s were known. Early civilizations used a variety of plant products to help protect the skin from sun damage. The American pharmacist Benjamin Greene developed a gelatinous substance, which was self tested and then supplied to soldiers in World War 2; he later developed a consumer- friendly formula. In the early 1960s, the concepts of sun protection factor were introduced and the demand for sun protection took off.

The Choice of the sunscreen (5,6)

The choice of the appropriate sunscreen protective formulation by an individual depends heavily on that person's skin type. Refer the Fitzpatrick Skin Type.

To protect the skin, following knowledge of SPF and PA must be known –

SPF- SPF stands for (Sun protection factor). The SPF number tells you how well the product will protect you from UVB. Everyone should use a sunscreen with an SPF of at least 30. This is what SPF number indicates

Low SPF= 2-15 Medium SPF= 15-30

High SPF = 31-50 Highest SPF = Above 50

PA- PA stands for Protection Grade of UVA. The + number tells you how well the product will protect you from the UVA, known as the sun's silent killers.

PA+ = Some UVA protection PA++ = Moderate UVA protection

PA+++ = High UVA protection PA++++ = Extremely High UVA protection

Along with the sunscreen the consumer should protect their skin by other different methods like Cloths, shades and more

1. Classifications of Sunscreen agent - (3,4,7,8,9,10,11) Sunscreen filters are classified into

1. Chemical or Organic- This type of filters are a group of carbon- contain compound designed to absorb the UV radiations.

2. Physical or Inorganic- This type of the sunscreen does not contain the carbon compound and scatter the UV light radiations.

Let's see the active ingredients of these classified sunscreen filters -

Organic Sunscreen - On the basis of the UV absorption spectrum, organic filters can be classified as broad- spectrum, UVA and UVB filters. Broad Spectrum

1. Bemotrizinol (Tinosorb S)- It is an oil- soluble UVA and UVB filters which is highly stable when

exposed to sunlight and it helps to stabilize other sun filters, such as avobenzone, from degradation.

2. Mexoryl XL and Mexoryl SX- It is broad spectrum UV absorber with peaks at 303 and 344nm. It is often used in combination with Mexoryl SX, a broad UV absorber absorbing UV radiation between 290 and 390 nm with a peak at 345nm, thus providing a synergistic effects.

UVA Filters

1. Avobenzone - It is one of the most effective UVA absorbers that absorbed rays between 290 and 400nm. Unfortunately, it is photo labile and can also degrade other ingredients such as octinoxate. Among various tested combinations, the most effective was a mixture of avobenzone 4% and octocrylene 3.6%. Another chemical which stabilises it is diethylhexyl, 2, 6 naphthalate.

2. Diethylamino hydroxybenzoyl hexyl benzoate (DHHB) or Uvinul A Plus- It has peak absorptions of 354nm. It is highly photostable and also allows for excellent mutation flexibility due to its high compatibility with other cosmetic raw material. On absorbing, the UVA radiation stimulates the molecule and one hydrogen atom migrates to a different position inside the molecules. On returning to the original states, the energy absorbed as UV light is gradually released as heat, thus allowing the molecules to absorb further radiation energy. This results in an effective and long - lasting protection.

3. Benzophenones- It has absorptions peaks at wavelength greater than 320 nm which is widely used 10% concentrations in combination with UVB screen to give broad spectrum protection. It has a photo allergic potential, major concerns are regarding its systemic absorption profile and its potential as an endocrine disruptor; hence, the overall safety of this molecule is debatable. Acute toxicity has not been reported in any studies.

UVB Filters

1. Cinnamate- Cinnamate acid ester are relatively safe and widely used category of organic UVB filters which is more popular in Europe than the PABA compounds. It can be used at the level of 10% and has advantage of low sensitizing capacity but must be applied frequently because it has low

substantively. It is also subjected to photodegradations and has therefore been encapsulated in nanoparticles to improve its photo stability.

2.Salicylates- It is well known as octyl salicylate and a relatively safe and widely used category of organic UVB filters with the absorption spectrum between 300 and 310 nm and can be used at level up to 5%. It is often used as a synergist with other sunscreen raw material. The widely used salicylic acid derivatives include octisalate and homosalate.

3.Octocrylene- It is an effective oil- soluble liquid UVB filter. It has excellent dissolving property for crystalline UV filter. Because of its outstanding photo stability, it is used as photostabilizer for avobenzene.

Inorganic Sunscreen - Inorganic filters act by reflecting, scattering or absorbing UV radiations. The ideal physical sunscreen would be to stay indoor, brick walls beings good protection against UV radiations (but not glass, which reflects UVB but allows UVA to pass through). Depending on the particle size, these materials are semiconductors that absorb photons at different wavelengths.

Zinc oxide is the most popular material used in Inorganic sunscreen. It extends across the whole of the UVA and UVB wavelength range and, indeed the visible spectrum. Therefore products containing zinc oxide offer a very broad UV protection, but also tend to give some visible light protection, which may results in a white appearance of the product on the skin. It gives greater protection in the UVA region around 370nm. More new technology is coming with mainstream formulations containing zinc oxide in combinations with either organic filters or titanium dioxide. In both cases the zinc oxide boosts protection in the higher UVA region whilst incurring only minimal skin whitening at the smaller particles size of (15-75nm). While using in formulations care must be taken of temperature to ensure good suspension particles at elevated temperature (45-50 °C) and as it is polyvalent material, it cannot be used with electrolyte- sensitive thickener or fatty acids where it acts as neutralizer and form a polyvalent soap which is water-in-oil emulsifier and causes emulsion instability.

Titanium Dioxide was used in color cosmetic before but a great deal of reaches and efforts had

gone into tailoring the use of titanium dioxide as a physical sunscreen. It has similar light scattering and reflective properties as zinc oxide. Titanium dioxide exhibits low reflection of visible wavelength at particle size of about 50nm diameter and commercial grades around this size are now available. Commercial grades are available to about 15nm and those give very minimal skin whitening whilst retaining fairly broad-spectrum protection. If the particle size is decreased further, then skin whitening disappears but so does the broad UV protection.

The UV attenuation spectrum of TiO₂ extends from UVB through UVA1. However the protection ranges of ZnO peaks in the UVA spectrum. Thus, one can formulate a purely inorganic broad-spectrum sunscreen by combining TiO₂ and ZnO. Titanium dioxide maybe photo-activated to produce oxidative free radicals, which may actually accelerate the very skin ageing process it is often used to protect against. Neither of these theories is proven, but the formulator must be aware of some of the controversies while choosing this ingredients.

FORMULATIONS

The major formulation type will be illustrated below-

1. Gel
2. Sticks
3. Oils
4. Sprays
5. Emulsion

Quantifying the efficacy of a sunscreen (11,12)

The efficacy of a sunscreen can be quantified on the basis of it's ability to attenuate UVA/UVB.

TESTING OF UVA

In VIVO methods

PPD (now known as UVA- PF method)- In VIVO PPD method is a reproducible and reliable measure of UVA protection, which was adopted by the Japan Cosmetic Industry Association. UVA -PE is the lowest UVA dose that produces the first perceptible unambiguous PPD response with defined boarder appearing over most of the field of UVA exposure, observed between 2 hours and 24 hours after the end of the UVA exposure. The UVA- PF is calculated

as following

$$\text{UVA-PF} = \frac{\text{MPPD (Protected skin)}}{\text{MPPD (Unprotected skin)}}$$

In VITRO methods

UVA-PF (COLIPA) methods ISO 24443: 2012 - The method consists of applying a thin layer of the product (approx. 0.75 mg/ cm²) on plexiglass plates of polymathy methacrylate (PMMA) comprising a standardized rough side with a roughness of approximately 2µm. Thus in vitro (UVA-PF in vitro) sun protection factor is determined by calculating the UV absorption data after an irradiations stage of sample in order to take into account photo instability. TESTING OF UVB

In VIVO method

The MED (Minimal erythema dose) is the quantity of energy required to produce the first perceptibility redness reaction of the skin with clearly defined borders. Energy is delivered using a filtered light source, simulating the solar emission spectrum with 94% source, of its output between 290nm and 400nm. Measurement must be done between 20 and 25 test subjects of Fitzpatrick skin type 1,2 and 3. Test material is applied to an area of at least 50 cm² at a thickness of 2mg/cm². According to the US FDA, SPF of 8% homosylate should be used as the standard to compare the SPF of the test product.

In VITRO method

A film of sunscreen is applied to an artificial test substance and a spectrophotometer then analyses the amount of UVR passing through the sunscreen. Currently there is no standardized in vitro method accepted for SPF labeling.

Apart from the basic tests some special tests are also necessary for these type of product

- 1.Spectrophotometric evaluation
- 2.Erythema Dosage
- 3.Sunscreen index
- 4.Determinations of Pigments

Conclusion

The awareness of the harmful rays of the sunrays had boosted the researcher on sunscreen and it has been found to be safe and effective way of protecting the skin from UV radiation. However for the appropriate protection against the UV rays, the correct sunscreen choice must be done. Before supplying to market the manufacture should check their product's efficacy.

Revinage

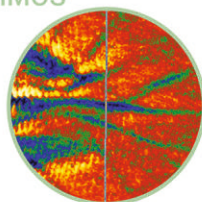
The real bio-retinol

A safe, stable, plant-based alternative to retinoids for the treatment of aging skin.

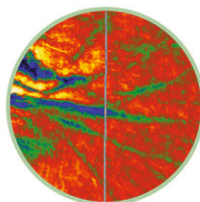
Revinage® is an exclusive supercritical apolar extract of Picão Preto (*Bidens pilosa*) standardized in phytol. Also available in a palm-free version, **Revinage® WPO**

Revinage® effect on deep wrinkles of the facial skin (periorbital region) after 28 days of continuous treatment measured by PRIMOS and OMNIA®.

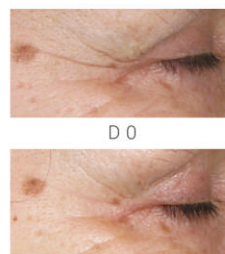
PRIMOS



Results after 28 days

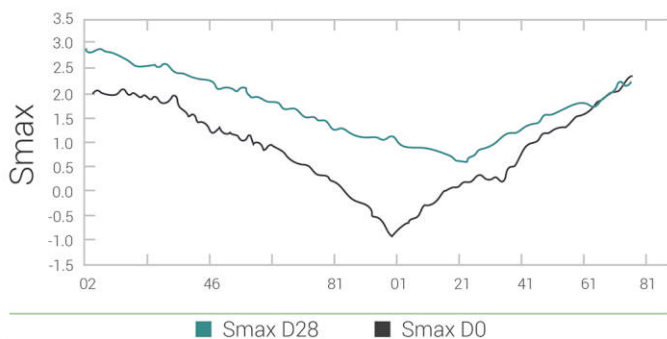


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Photographic
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The graph shows values of Smax obtained from the indicated regions (blue arrows) in the photographs.

Industry News

Compiled by Sheela Iyer ,

Editor Cosmetech Digital www.cosmetech.co.in

Plum wins prestigious Award

Plum , that claims to be India's first 100% vegan and cruelty-free beauty brand, has won the Best Vegan Cosmetics award at the PETA India's Vegan Fashion Awards 2021. On the occasion of World Vegan Day, PETA, commemorated industry and brand vocalists who have chosen to take the vegan route in the fashion industry in India. Plum is the first and only Indian cosmetic brand to have received this prestigious title till date. The beauty brand has a strong portfolio in skincare, haircare, personal care and makeup with over 150+ beauty products under its belt.

Beauty industry turns to metaverse to build communities

Beauty brands have understood the potential of the parallel worlds of makeup and video gaming to present and promote their products, and build bigger and more diverse communities. Givenchy, Gucci and Nars are among the cosmetic brands that are already dabbling in this new arena by partnering with Nintendo's "Animal Crossing." In in these parallel universes, user avatars are generally seen wearing clothes and make up looks.

Myntra increases focus on BPC category

Myntra is aggressively scaling up its Beauty and Personal care portfolio, and has added 400 brands this year alone. The emerging go-to BPC destination is aiming at adding another 500 brands in 2022. Besides offering the consumer a wide variety of brands to choose from , Myntra's 15-day return policy has enabled its consumers to have a smooth and hassle-free buying experience. It must be noted that Bollywood's style icon, Disha Patani, is the brand ambassador for this segment on the platform. On the technology front, features such as AI-powered Skin analyser tool and virtual try-on are enabling consumers to undertake informed buying decisions. Some of the prominent international and domestic brands that were added on Myntra this year include Benefit Cosmetics, Bath & Body Works, Dermalogica, Anastasia Beverly Hills, W Beauty, Pilgrim, Swiss Beauty, Syska Appliances and Kora Organics among others.. Myntra has also collaborated with some of India's leading celebrities, such as Salman Khan for Frsh, Virat Kohli for One8, and Sara Ali Khan for Maybelline to share special mentions from their social media

channels to drive traction for the category.

Post blockbuster IPO Nykaa Founder Becomes India's Wealthiest Self-Made Female Billionaire

Founder of Nykaa , Falguni Nayar, is now worth about \$6.5 billion as shares of the firm surged when they started trading , making her India's wealthiest self-made female billionaire. FSN E-Commerce Ventures, Nykaa's parent entity, is India's first woman-led unicorn to hit the stock exchange. Nayar, who formerly led a top Indian investment bank, founded Nykaa in 2012. The startup has since grown into the country's leading beauty retailer, buoying online sales with demo videos by glamorous Bollywood actors and celebrities and more than 70 brick-and-mortar stores. Nykaa plans to more than triple its brick-and-mortar stores to 300 to significantly increase its offline presence in India.

Online retailer Purplle in talks to acquire Faces Cosmetics

Online beauty and grooming products marketplace Purplle, which recently raised \$75 million in a new round led by Kedaara Capital, has scooped up another \$50 million from a new investor: Premji Invest. The infusion, according to the beauty startup, will accelerate the company's growth towards building a multibillion-dollar company from India. The company claims that within a year, it has grown its brand strength to over 1,000 with over 50,000 products across categories like make-up, skincare, haircare, personal care, fragrances, and grooming appliances. With a strong focus on new customer acquisition, the startup said that its marketing investments have grown by 2X to build brand Purplle. While doubling new customer acquisition, Purplle has very strong retention with 65-70 per cent of revenue coming from returning users. Elite, Purplle's loyalty programme, contributes to 25 per cent of the platform's revenue, according to an official statement. The company plans to rapidly scale its private brands business and continue to build differentiated beauty brands with entrepreneurs, while continuing to leverage exclusive Indian and international brand partnerships and fast-track acquisitions. The company is in talks with Sequoia Capital India to acquire Faces Cosmetics.

Customised Ayurveda Beauty brand Vedix significantly expands its portfolio

Customised Ayurveda Beauty brand Vedix has launched over a dozen new products including three base oils and ten boosters oils, claiming to address more than 500 combination types based on individual needs. With the new product launch, the company aims to witness at least 20% growth in the new customer additions month-on-month. Vedix was founded in 2017 as part of Incnut group and has raised series A funding of \$4 million from RPSG ventures. With an annual revenue run rate of Rs160 crore it is adding close to one lakh new customers every month. Vedix, sells products on marketplaces such as Amazon, Flipkart and Purpille. Besides a range of customised Ayurvedic oils, serums and shampoos, Vedix has also recently expanded its men's grooming portfolio and launched oral hygiene products.

Galaxy Surfactants Ltd has bagged the coveted Golden Peacock award

Galaxy Surfactants Ltd has bagged the coveted Golden Peacock award under the category of Eco-Innovation for the year 2021. The company bagged the award for its Galguard range for product innovation, which is a specialized range of preservatives for home & personal care products. Galguard emerged at the top under the category of Eco Innovation Awards among the 472 nominations. Galguard Tetra by Galaxy Surfactants is a preservative that is free of parabens, formaldehyde releasers, and isothiazolinones. It provides broad-spectrum antimicrobial protection. Its applications include leave-on and rinse-off products for skin and hair.

Solvay partners with BanQu In India

Solvay has partnered with BanQu, reportedly the first-ever, patented and largest end-to-end, non-crypto blockchain Supply Chain Sustainability platform. Through this partnership, Solvay will launch a transactional platform based on blockchain to ensure the full traceability and transparency of its guar supply chain. The company notes that guar seeds provide eco-friendly hair care solutions for today's shampoos, conditioners and repair treatments. It sets the standard for how chemical companies should lead with a profit-with-purpose mindset." The blockchain platform also will boost equality and revenues for local farmers, and reduce face-to-face interactions

during the COVID-19 pandemic. Solvay is reportedly the first chemical company to introduce BanQu and its blockchain platform in India.

Pantone announces 2022 colours

Pantone's 2022 color of the year is Veri Peri (Pantone 17-3938), a tone 'encompassing the qualities of the blues, yet at the same time possessing a violet-red undertone.' Very Peri presents a "courageous presence" that "encourages personal inventiveness and creativity," as per Pantone. The color is in stark contrast to the yellow and gray tones highlighted in 2021's choices. The 2022 pick features a "carefree confidence and a daring curiosity that animates our creative spirit, inquisitive and intriguing." The Pantone Color of the Year reflects what is taking place in our global culture, expressing what people are looking for that color ,can hope to answer.

Prestigious CEW Awards announced

CEW has announced the winners of its 27th annual Beauty Creators Awards. This year featured awards in 30 categories and more than 1,300 product entries from approximately 600 brands. Aveda won the Sustainability Excellence award and Grant Industries Inc. won the Supplier's Award: Ingredients and Formulation. The Indie award went to Ilia Beauty and Gussi won the QVC Beauty Quest award. In cosmetics, Sephora Collection Total Coverage Original Sponge won the Makeup Tools award. Other cosmetics winners include The Ordinary Concealer (Face Product), Bobbi Brown Cosmetics Crushed Oil Infused Gloss (Lip Product) and Too Faced Born This Way The Natural Nudes Eyeshadow Palette (Eye Product). Some of the other awards included Skincare -NuFace Fix Line Smoothing Device and RéVive's RéVolve Contouring Massage Roller tied for the Skin Care Tools award. Drunk Elephant Protini Powerpeptide Resurf Serum (Anti-aging), Yes To Avocado Fragrance-free Daily Cream Cleanser (cleanser and scrub), Olay Regenerist Collagen Peptide24 Eye Cream (Eye Treatment) and First Aid Beauty Ultra Repair Firming Collagen Cream (Face Moisturizer). Dyson Corrale Straightener won the Hair Care Tools award. Moroccanoil Color Depositing Masks (Hair Coloring), Olaplex No. 8 Bond Intense Moisture Mask (Hair Shampoo/Conditioner) and Bumble and bumble Bb.Curl Defining Cream (Hair Style/Care) also won awards in their categories.

How can we make safer cosmetics & personal care products to suit increasing consumer demands?

By Sambit Roy, Head of Sales,
Clariant - India, Middle East & Africa

Insert – image named Motiv; attached separately
Color can positively influence consumers' perception of a home or personal care product. It influences shopping choices, especially when it comes to the crucial first impression. We make decisions in seconds – and those seconds can make or break a brand. Color helps in highlighting a special property or effect of a particular ingredient inside a shampoo, liquid hand soap, or skin care mask. The latter is growing in popularity as more consumers seek comfort from self-indulgence during current uncertain times.

Colors additives provide consumers with everything from the red tint in their blush to the green hue of their mint-flavored toothpaste. This group of ingredients, the dyes & pigments especially in cosmetics, is the most tightly regulated today. They play an important role in making cosmetics more appealing. Personal care and cosmetics products manufacturers must innovate and come up with a wide range of ingredients for different customer tastes.

A consumer might be choosy about their moisturizer, hair color products, makeup brand, etc. but how much time do they spend to check out the safety aspects of those products? Cosmetics and personal care items include everything from foundation and mascara, to face and body lotions, soaps and shampoos, hair styling products, deodorant, toothpaste, hair dyes, nail polish, etc. They are considered safe, but that doesn't mean that there aren't risks associated with their use, particularly if they are not used correctly.

Safe color solution – Cosmenyl 100

Some of the safety concerns that may be associated with cosmetics and personal care products include:

- Eye infections
- Bacteria skin infections
- Irritation and scratches on eyes

Fire hazards, in the case of aerosol products such as hairspray

Allergic reactions or sensitivity to ingredients

Contaminants in products

Cosmetics, like any product containing water and organic/inorganic compounds, also require preservation against microbial contamination to guarantee consumer's safety and to increase their shelf-life. The microbiological safety has a main goal of consumer protection against potentially pathogenic microorganisms, together with the product's preservation resulting from biological and physicochemical deterioration.

Clariant offers a complete range of Cosmenyl 100 next generation aqueous pigment dispersions that give a safe coloration boost for personal care products with a new state-of-the-art preservation system. We proactively optimized the range to meet the latest regulatory requirements for cosmetic products of the European Cosmetics Regulation No. 1223/2009, which limits the use of preservatives.

The new state-of-the-art preservation system for the Cosmenyl 100 range fulfils the strict microbiological specifications without containing ortho-phenylphenol (O-PP), methylisothiazolinone (MIT) or parabens. Additionally, the base colorants used for this range are included in at least one of the authorized use lists for cosmetic colorants for the EU, USA, or Japan.

Our updated range can help formulators safely and brilliantly color their liquid, powder, or paste products. Next-generation Cosmenyl 100 pigment dispersions provide the readily flowable and pumpable benefits already valued by customers. The range offers various shades of colors suitable for coloring a wide range of personal care products, including soaps, shampoos, toothpaste, and eye cosmetics.

Insert – Cosmenyl petri dish image; attached separately

Living Colors for personal care & cosmetics – Sanolin powder dyes

Clariant also offers selected water soluble Sanolin powder dyes that are included in at least one of the authorized use lists for cosmetic colorants for the EU, USA, or Japan. These products are exposed to low dose ionizing radiation and therefore meet high microbiological purity requirements of customers active in the home & personal care industry.

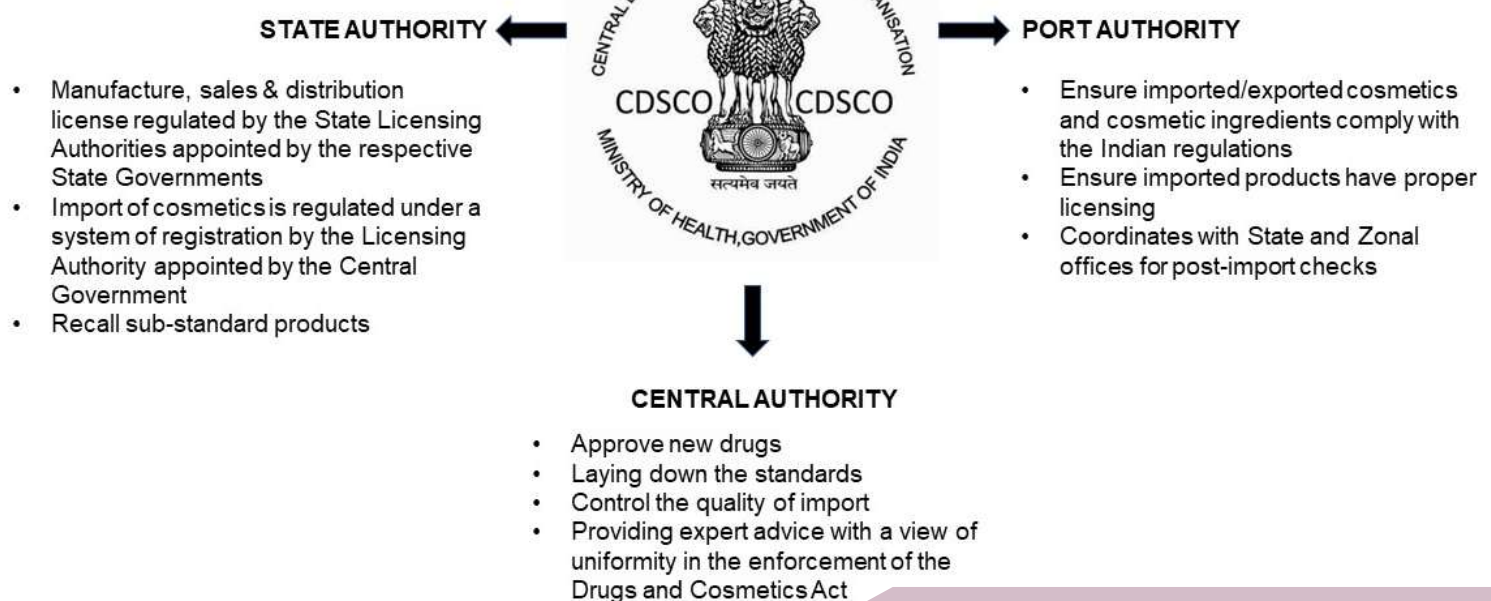
As a supplier to the consumer goods industry, we provide comprehensive support in the areas of product safety, toxicology, and regulatory support. In general, the manufacturer of the formulation is responsible to use ingredients that meet the respective regulations.

Update on CDSCO regulations in India

One of the most important aspects that needs to be highlighted here are the Cosmetics Rules, 2020 that the Ministry of Health and Family Welfare introduced, on December 15, 2020. The aim of the legislature is to separately codify and update the rules relating to import, manufacturing, labelling, sale, and distribution of cosmetics in India, which were earlier set out under Drugs and Cosmetic Rules, 1945.

All the cosmetic products & their ingredients are regulated by the Central Drugs Standard Control Organization (CDSCO). All products & ingredients are to be registered with CDSCO; this includes the ones that are imported for sale in India.

Insert – CDSCO image; attached separately



The key changes that might affect cosmetic formulations are listed below:

Removal of three colors from the permitted list for soaps (Color Index numbers – 12075, 45170 & 26105)

Mandatory for manufacturer of cosmetics and make-up products to declare all ingredients, even those with concentration of less than 1% to help buyers make more informed choices



Prohibition on the import of cosmetics in the following cases:

- Manufacture, sale, and distribution of cosmetic is prohibited in the country of origin'
 - o Use before or Use by date' less than 6 months from the import date

- Cosmetics containing hexachlorophene
- Cosmetics tested on animals after November 12, 2014
- Raw materials mentioned in IS 4707 part 2, Annex A

Hair dyes containing paraphenylenediamine or other dyes, colors and pigments should be labelled with specified warnings

Permitted synthetic organic colors and natural
 ● organic colors used in the cosmetic shall not contain more than -

- 2 parts per million of Arsenic calculated as Arsenic Trioxide
- 20 parts per million of Lead calculated as Lead
- 100 parts per million of Heavy Metals other than Lead calculated as the total of the respective metals
- Colors permitted in cosmetic products are same as given under IS 4707 (Part 1) by the Bureau of Indian Standards

New Cosmetic:

o Cosmetic Rules 2020 for the first time introduced the concept of 'new cosmetic', which has been

defined as a cosmetic which contains a novel ingredient which has not been used anywhere in the world or is not recognized for use in cosmetics in any national or international literature

o The rule mandates importers/manufacturers of a 'new cosmetic' to make an application and seek approval from the Central Licensing Authority (CLA) before such a 'new cosmetic' could be imported in India

Streamlined Applications - The importer can make a single license application and seek a single registration certificate for the import of one or more cosmetics manufactured by the same manufacturer in a single manufacturing unit

To collaborate and create novel innovations & products for the cosmetics industry, kindly get in touch with us via

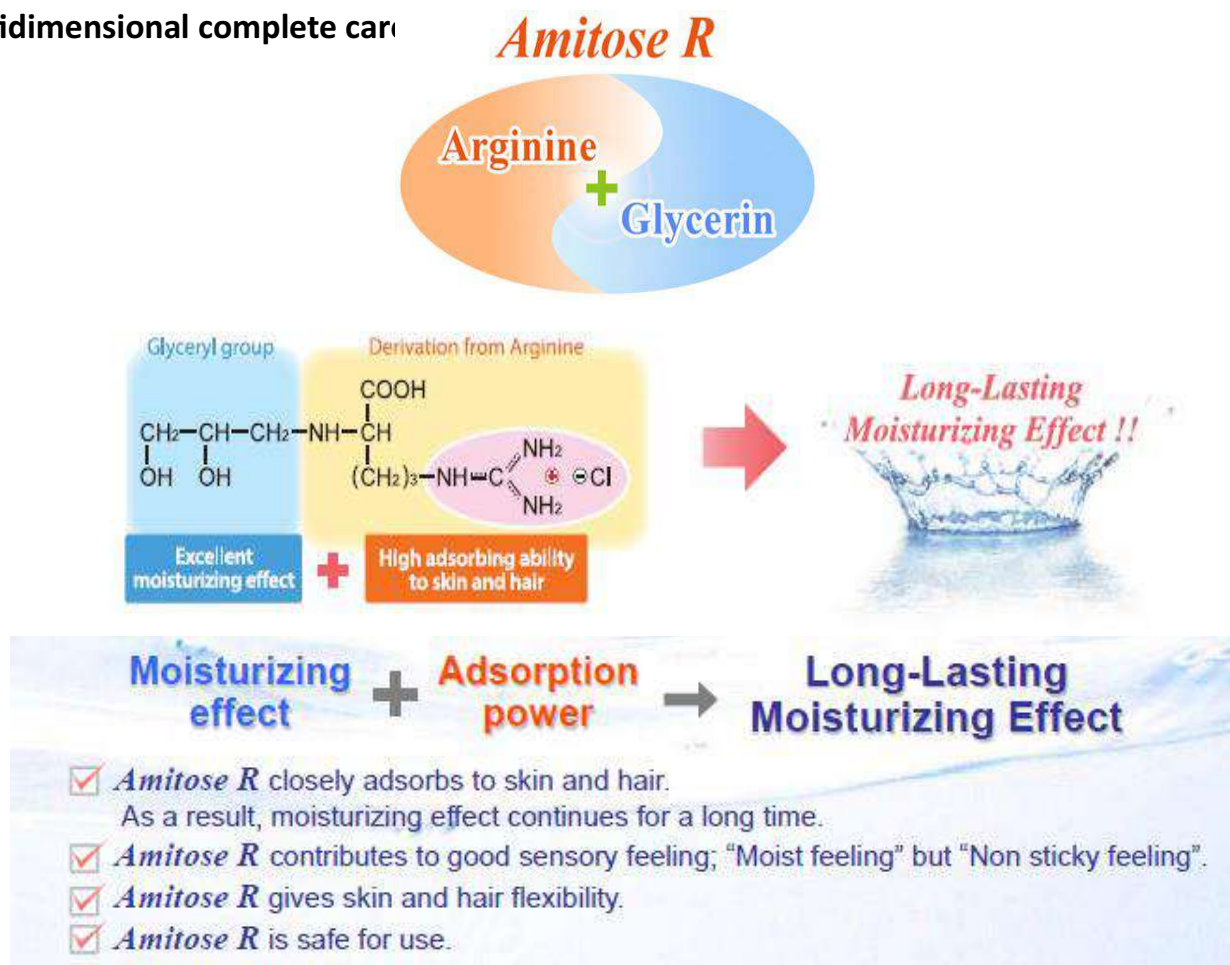
pigments.sales.india@clariant.com. We listen to our customers – you are precious to us!



TRENDY TIMES: SKIN MICROBIOME BALANCE ALONG WITH MULTIFUNCTIONAL APPROACH -

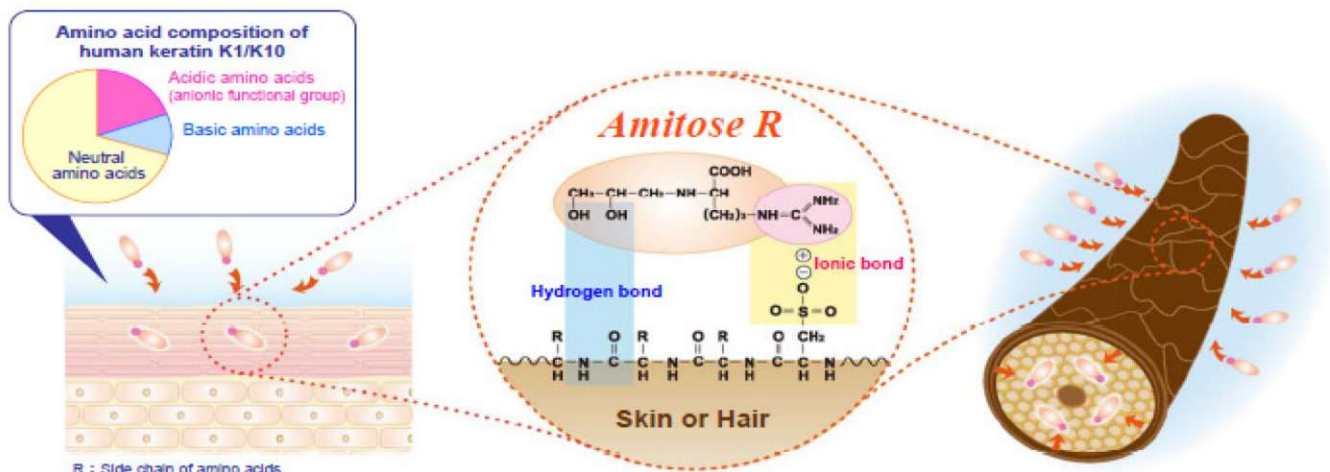
The skin microbiome as a beauty concept is challenging current perceptions about the role of bacteria in the skin. The market currently is focused on offering prebiotic and probiotic solutions. Approach to microbiome in personal care can range from cleansers, moisturizers to mists, serums, and sprays products. Above all, there is still space for innovation and also to redefine certain established products.

We introduce a specially derivatized **ARGININE** as a unique prebiotic humectant compound that helps balancing surface microbiome with selective approach along with multidimensional complete care



Amitose R closely adsorbs to skin (stratum corneum) and damaged parts of hair (anionic feature) thanks to "Ionic bond" from guanidino group in arginine in addition to "Hydrogen bond" from hydroxyl group in glyceryl group.

That is why it is difficult to rinse off, and moisturizing effect continues for a long time. In case of hair care, it penetrates into inner of hair because of its low-molecular weight, and keeps moisture.



Amitose R is a multi-dimensional Skin, Hair and Scalp care active:

SKIN CARE

- MICROBIOME BALANCE
 - Results in Anti acne benefit
- PROVIDES LONG LASTING MOISTURIZATION
- SKIN CONDITIONING BENEFITS
- ANTI POLLUTION PROPERTY

SCALP CARE

- MICROBIOME BALANCE
 - Solution for Oily dandruff
- CATERS DRY DANDRUFF ISSUES

HAIR CARE

- PROVIDES LONG LASTING MOISTURIZATION
- SUPPRESSION OF HUMIDITY INDUCED VOLUME UP
- ANTI POLLUTION PROPERTY

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NECESSITY OF COSMETIC PRODUCT STABILITY, SHELF LIFE AND SAFETY IN PERSONAL CARE MARKET

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I'm inspired to write this article to increase the awareness of cosmetic product stability as well as safety because gradually climate weather are changing and I had seen many products into the market which are not stable and seen many brands are failing into the market because young entrepreneurs may be don't know about the stability, safety and shelf life of cosmetic product or may be not giving the importance because of time, manpower as well as money. Any cosmetic Brand to sustain in the market for long term, stability, safety and shelf life playing a major role, once consumer pick up unstable or unsafe product from market, brand will vanish. My idea to write this article is increase the importance of stability, safety and shelf life of cosmetic products.

Why stability needs to conduct?

Cosmetic product formulation which contains more poly unsaturated fatty acid vegetable oils like creams, lotions, oils will become rancid and give a pungent smell over a period or many time perfume of the cosmetic product will changed completely due to rancidity.

Cosmetic product formulation which filled in containers whose cap is not tighten properly with the container and due to this water loss will happen over a period and product become more thicker than expected thickening. Consumer can reject the product if it is launched in the market without improvise the cap or container.

Cosmetic product like transparent shampoo, face wash and hand wash formulation which filled in a transparent bottle and selling into the cold region, many times transparent product become cloudy and in shelf some of the samples are clear and some of the samples are cloudy so consumer will

reject the product and product and brand both will vanish from the market.

Cosmetic product like creams and lotions filled in a packaging and that packaging are not UV protected so due to this issue variations in product color can happen.

There are many more, but these are few examples / issues which can be identified before launching the product in market based on conducted stability study.

Stability and safety of the cosmetic product.

Stability means the product which consumer will use must be stable and safe to certain time period, and that time period called shelf-life. Shelf-life of any cosmetic product can be derived or predicted based on the stability of that products. Stability is playing a major role in to the cosmetic products formulation development as well as in manufacturing.

Ideally stability study needs to be conducted as per the country standard like in India it needs to follow the FDA guideline. There are mainly two international guidelines also available like COLIPA guidelines on stability testing of cosmetic product and ISFCC (international federation societies of cosmetic chemists) The fundamentals of stability testing. I will touch upon the stability guideline which are generally using in Indian cosmetic companies. Stability study needs to conduct in the final packaging before launching the product.

Room temperature stability study which needs to check, up to the shelf life like 24months or 36months based on the company requirement

needs to set the stability protocol. Here sample of the product needs to test periodically like initially, 1, 2, 3, 6, 12, 24, & 36 Months.

In room temperature stability study is the long-term stability study which needs to check up to the expected shelf life and in that it first needs to prepare the stability protocol where it needs to include the testing parameters based on the product formulation with the help of standards like BIS standards are generally used in INDIA. Based on the testing parameter it needs to check the formulation as per the time interval and needs to maintain the record of the results.

Accelerated temperature stability study (40°C temperature and 75% relative humidity) which needs to check up to the 6months or 12 Months based on the company requirement needs to set the stability protocol. Here sample of the product needs to test periodically like initially, 1, 2, 3, 6 & 12 Months.

Accelerated stability study needs to be done same as per the above-mentioned protocol and guideline. Accelerated stability study is mainly to predict the shelf life of cosmetic product. +/- 10% variation in testing parameter are generally acceptable in accelerated stability study to predict the shelf life. Accelerated stability study will not give the guarantee for the shelf life but it can give more confidence about the shelf life.

Freezing temperature stability study (4 to 8°C temperature in freeze) which needs to check up to the shelf life like 24months or 36months based on the company requirement needs to set the stability protocol. Here sample of the product needs to test periodically like initially, 1, 2, 3, 6, 12, 24, & 36Months.

Freezing temperature stability study is mainly to predict the emulsion stability as well as perfume solubility in the final cosmetic products. It will also give more idea for the surfactant-based products like over a period transparent product will remain the transparent or it will turn into cloudy.

Again, it also depends upon the company requirement. This I am provided to get the idea of time interval, some companies are doing the testing every 15 days.

There are few more stress study some companies are doing to get the more confidence which are as mentioned here.

Sunlight or UV light study, this study generally conducts to check whether the product is stable under Sunlight or UV light, this test ideally can conduct for 1 month to keep the sample in Sunlight or UV light. Cosmetic product color stability can be checked base on this test and if colour change and color fade in the cosmetic product observed, needs to add color stabilization molecule like UV absorber (benzophenone-3, Ethylhexyl methoxy Cinnamate, Sodium metabisulphite, etc). Each and every molecule have their own positives and negatives so based on the literature and your own experience it needs to be selected for color protection molecule, for example if sodium metabisulphite used in emulsion based products, sometime it will reduce the viscosity of products and sometimes it will break the emulsion so it is to be used after doing thorough literature study as well as stress study. All the issue can observe under the stability study as well as stress study so that before launching the product .

Centrifuge test is mainly to check the emulsion separation, creaming as well as sedimentation in the products, ideally a sample is to be tested in centrifuge at 3000 rpm and for 1 to 2 hours, further if any emulsion separation, creaming, sedimentation is not observed in the product, it means that formulation is ok and if any separation and sedimentation are observed, needs to modify the formulation.

Freeze and thaw study test can conduct for the checking of emulsion stability like some of emulsion are stable at 40°C but not stable at 4-8°C temperature and emulsion turn into crystallization.

So this test can give the clarity about the emulsion. This test can be conducted like 1 day at freeze and alternate 1 day at room temperature, repeat the same for at least 4 to 6 times so that can get better idea about the emulsion stability.

Sometime product will fail into the accelerated (40°C) stability but it will pass at the room temperature up to the shelf life so needs to keep in mind the accelerated stability study will give confidence for the longer period, but it cannot replicate the same in room temperature so based on the experience one needs to take a decision.

Preservative efficacy test or microbial challenge test can conduct to check the preservative system is effective or not. If the formulation is not passing the preservative efficacy test or challenge test, one needs to improve the preservative system or needs to change the preservative system. Mainly Ecocert and Organic product is little bit difficult to preserve so for this kind of products needs to keep the back up one more preservative system which passes the preservative efficacy test or challenge test. In the market many products fail due to improper preservative system.

50 to 55°C Stress study is mainly to check the emulsion stability in shorter time like in any emulsion-based product it is required to keep at 50 to 55°C for 15 days to 30 days and in this period if emulsion is not breaking it means that the product emulsion will stay stable for 2 to 3 years at ambient temperature. Another example is that if any products which contains suspended beads or scrubbing particles also needs to be checked in the same way. This test to be conducted because of the many areas has hot temperature and even in warehouse temperature will go above 45°C and even container export by sea can have the higher temperature so strong emulsion system can be built based on this test.

First it needs to check the stress study of prototype formulation which marketing team had approved, needs to take small pilot batch and check, after that

needs to take scale up batch and check so finally when first commercial production batch will start, above all samples give more confidence for the final batch and can save and build brand.

Dermatological test needs to be conducted and based on that it can be judged whether the product is nonirritant and safe for the use. Now a days all big brands are claiming their products are dermatologically tested.

There is very little published research to support specific to stability because every day new products are entering in the market so standard stability can not be defined so ideally cosmetic product manufacturer who have the knowledge of their products and packaging has to design the stability protocol on scientific bases and accordingly needs to evaluate the product and its product shelf life.

Based on my experience I can say that there is no any single product which cannot change over a period of time so better to check the stability study as well as stress study and based on that issues can be optimized or resolved.

It is very deep subject and can not be mastered by writing or reading some articles, but I just touched up on to increase the awareness and importance so that Indian cosmetic companies can get more deep in it.

I firmly believe that company or brand owner is the responsible for the stability, safety, and shelf life so each and every company or brand owner has to allocate the budget for this activity and based on this only can get the best stable and safe cosmetic product.

Mibelle

Pinolumin:

- Relax your skin – enjoy a flawless complexion

Claim:

- Calms sensitive and irritated skin
- Visibly reduces redness and age spots
- Creates a more even toned skin for a youthful radiance
- Protects from the effects of environmental stress

Applications:

- Skin care and sun care for sensitive skin
- Radiance booster
- Neurocosmetics
- CC creams (color control)



ShapePerfection: Burns fat – fights cellulite

Claim:

- Visibly reduces the appearance of cellulite
- Effectively shapes body contours
- Reveals a slimmer silhouette

Applications:

- Anti-aging body care
- Anti-cellulite massage formulas
- Body slimming oils

AAK

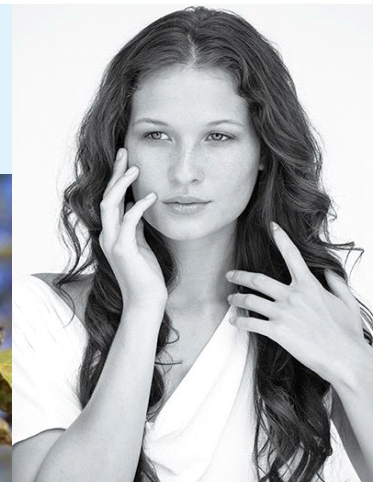
Lipex SheaLiquid TR: Fully traceable, high stability semi-liquid shea butter for moisturising and conditioning in personal care

Claim:

- Versatile shea butter for all personal care formulations
- High stability and long shelf life
- Moisturising and conditioning

Applications:

- Skin care-Lotions, Creams, Serums, Butters
- Hair Care-Conditioners, Styling and treatments
- Colour cosmetics- Lipbalm, Lipstick



Covestro

Baycusan C 1010: New polyurethane-based film former for global water-based hair styling formulations

Claim:

- Flexible
- Easy-to comb
- Style retention
- Not tacky
- Breathable
- Suitable for all climates

Applications:

- Waxes
- Mousses
- Creams
- Other novelty styling products



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