Skin Protection – from anti-pollution to microbiome: analyzing current trends, ingredients and potential future developments

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Overview of presentation

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▸ Why has its profile increased in recent years?
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What is Skin Protection?

- Skin is our natural barrier against environmental aggressions
- When it is compromised and not healthy its effectiveness is lessened
- Compromised skin = major health issues (podoconiosis, atopic dermatitis)
- Skin protection products give consumers sense of a ‘shield’
- Can be seen in a wide range of skin care areas...
Why has Skin Protection become popular?

- The ‘shield’ concept – like an invisible armour against the elements
- Mirrors developments in ‘technical’ clothing – sports, outdoor wear
- News reports on the harmful effects of pollution, sun, etc.
- People are concerned, and want to feel protected
- The threat is often invisible (pollution, UV, HEV)
- The growth of megacities and urban living in general
- Explosion in portable communication devices
- K Beauty
‘Technical’ clothing labelling
Anti-pollution

- Only 200 years since industrial revolution. As late as 1800, only 3% of the world’s population lived in cities.
- Not enough time for bodies to adapt to increased levels of fossil fuels etc
- Particulates in air cause inflammation in skin
- PM2.5, PM10 – Remove, repair, protect
- Future developments: targeted pollution-induced issues, city-specific formulations, indoor pollution
Anti-pollution ingredients

- Protecting skin cells from pollutant penetration, removal of oxidants (Citystem by Sederma)
- Combined metal chelator and antioxidant (Pollushield by Lipotec)
- Reduction in dust particle cellular stress (Elixiance by Ashland)
- Reducing pollution-induced dark spots induced (EPS White by Codif)
- A solution with anti-scavenging properties of BP Quad Peptides (copper, platinum, selenium, and zinc) and enhanced permeability of mid molecular weight hyaluronic acid (BP Anti-Pollution Complex by Jeen International)
TEWL (Trans Epidermal Water Loss)

- Moisture in skin keeps it healthy
- Dry skin flakes and skin barrier is compromised
- Can be caused by variety of factors
- Moisturisation still an area consumers feel is inadequately served
- Future developments: instant quenching remains the acid test
TEWL-focused ingredients

- Marine-origin soluble collagen (Bio Marine Collagen by Cobiosa)
- Increasing stratum corneum hydration and water retention (via a water reservoir) for 72 hours (Pentavitin by DSM)
- Improvement of skin barrier functionality (Oat COM by Oat Cosmetics)
Sun Protection

- UV filters are traditional sun defence
- Increasingly an anti-ageing factor as photoageing becomes more understood
- DNA protection from the sun
- Future developments: Educating consumers on UVA and UVB to continue, improving application and sensory
Sun Protection ingredients

- Vaccine-like action, by stimulating in advance skin's natural defences against UVA and UVB (Uvaxine by Givaudan)
- Correcting solar elastosis damage and shielding against photo-aging (Lys’Sun by BASF)
- Reorganising collagen fibrils, reduction of inflammation damage by UV (Cherry Blossom Eutectys by Naturex)
HEV

- Light emitted by portable electronics – High Energy Visible light
- Implicated in skin ageing
- Protection against ‘modern life’
- Penetrates deeper than UV
- Sets off inflammatory reactions
- Future developments: Sunscreens to state the fact they address UV, IR and HEV
HEV ingredients

▶ Addressing skin-damaging effects of blue light pollution from phones, computer screens etc (Blumilight by Ashland)
▶ TiO2 ingredient that absorbs also in the near-UV (HEV) light spectrum (Solaveil Spextra by Croda)
▶ Fractionated melanin compound, works as an additional environmental defence against High Energy Visible light (Liposhield by Vantage)
▶ Global photo-protector (Soliberine by Greentech)
Temperature

- Lips have historically been a target for cold weather protection
- Cold winds irritate skin
- Heat increases sweat production, increased use of swimming pools (chlorine)
- Heat and humidity bring fungal/bacterial infections
- Air con/central heating dry out skin
- Future developments: the use of hot & cold sensations as part of treatments (for pore refinement, skin stimulation etc.)
Temperature-focused ingredients

- Re-densification of skin, protection and vitalizing of dermal stem cells (Phytocelltec Nunatak by Mibelle)
- Suspension of waxy particles protecting the skin against cold temperatures and other harsh climatological influences (ProBarrier CLR by CLR)
- Tetrapeptide that increases HPS70 (Heat Shock Protein) levels in skin providing a protective shield, that confers cells a stress tolerance against everyday challenges and stressful stimuli (Thermostressine by Lipotec)
Microbiome

- Focuses on the skin as a living ecosystem with a range of important flora
- These flora help keep the skin healthy
- People learning to nurture this living environment
- Can use stomach bacteria as a parallel
- Future developments: seeing ranges of products that claim to do no harm to, or promote, healthy skin microbiota
Microbiome ingredients

▸ Re-adjust the skin’s own microflora, reduce inflammation and regulates sebum production (Ronacare SereneShield by Merck)

▸ Regulate the *Malassezia* proliferation, responsible for dandruff, while preserving the scalp microbiota ecosystem (Defenscalp by Lucas Meyer)

▸ Target specific bacteria responsible for axillary odour, inhibiting the proliferation of *Brevibacterium epidermidis* but respecting proliferation of *Staphylococcus epidermidis* (Probiophyte Fresh by Greentech)
Geographical distribution

- Anti-pollution trend began in Asia but is picking up traction globally
- Different regions have different industry, climate, fuel preferences
- New trends from Asia?
  - Devices: diagnosing skin conditions/needs and tailoring formulas to them (US as well as Asia)
  - Novel, often unusual ingredients
  - Essences and other additional steps within the skin care regime
Summary

- Huge opportunity to expand ranges - localise
- Fits in with natural desire to feel protected in urban environment
- Increasing number of specific ingredients
- Additional step to beauty regime
Thank you for your attention