SILICONES: Rethinking Clean & Safe Beauty
Tania Viana – Technical Director
Silicones versus Natural Ingredients

Why do people buy natural products?

• 68% consumers buy natural and organic products
• 95% consumers buy more natural products than 10 years ago
• 95% consumers buy products where efficacy is the most important factor
• Cosmetic market is evolving to support priorities like safety, performance and responsibility

Denise Herich, Report from The Benchmarking Company
### Eco-Friendly?

- Consumers generally consider it better for the environment.
- Aligned with consumer concern with toxicity and pollution in water runoff and oceans.
- Safer for human health?

### Safe?

- Ask 500 people: what would you rather put on your skin, pure silicone or pure essential oils?
- Atopic dermatitis has been on the rise since 1960s, possibly due to environmental agents.
- Essential oils - quintessential ex. of natural products with allergens.
- Natural products can cause severe reactions
Industry Transparency & Messaging

“The promise land is safe and effective”

1. Unnecessary excitement of fear

2. ALARMISM

3. Spreads rapidly through social media, exaggerating danger and causing misinformation to flourish

“You want a product to be both efficacious and safe”

“Because something is safe and natural, doesn’t necessarily mean is good for you”

“The entire beauty industry needs to be transparent”

Margarida Arriagada, Former Chief Merchant of Sephora
Quality Consumer Education

*Pushing back against alarmism!!!!!*

**Social Responsibility**
- Marketers
- R&D Teams
- Suppliers
- Brands
- Retailers

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**Factual Information**

**Transparency**

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**Consumer**
Case in Point: Silicones

Outstanding performance

Gentle & Safe

Clean & Ethical

SILICONES
Clean & Ethical

1. Silicones are derived from quartz (sand)
2. Vegan & Cruelty Free
3. Palm-free Status
4. GMO-free
5. Colorless, odorless, no oxidation issues
Silicones are non-irritating, non-comedogenic with unparalleled skin safety.

- Hospitals rely on silicone-based dressings for wound care.
- Consumer market, OTC skin protectants and silicone sheets are FDA-approved to prevent scarring.

**Most valuable product characteristic: 100% safe to skin**
Gentle & Safe
Outstanding Performance

**Efficacy should not be compromised!!!!!**

Silicones:

- **Inert**
  - Compatible with most ingredients
- **Exceptional sensory performance**
  - Proven consumer soft touch experience and acceptance
- **Enhanced delivery of actives**
  - Stabilizing matrix improves efficacy
- **Multi-functional value added benefit**
  - Sensorial modifier with optical light diffusing properties
Silicone-free Objections

Largely misunderstood!!!!!!

Where did it all start?

- Online forums complaints of silicones weighing down long hair
- Traced back to overuse of 2-in-1 shampoos
  - High molecular weight silicone gums
  - Cationic polymers
- 2-in-1 shampoos no longer popular, market shifted
- HOWEVER, silicone-free demand still remains due to *uncontrolled alarmism*!
D4/D5/D6: Silicone Industry Position

No restrictions in leave-on products!!!!!!

- UK
  - D4/D5/D6 restricted in rinse-off applications (<0.1%), however...

- USA
  - Recent industry-funded study suggested D4 poses “negligible risk to the environment”, based on data collected under EPA enforceable consent order (Real data)

- USA (CIR), Health Canada, Australia
  - Regulatory bodies have concluded D4/D5/D6 do not pose any risk or environmental concern and extremely safe for human use

- April 2\textsuperscript{nd}, 2018
  - Representatives of EU and USA silicon industry associations began a legal action against EU Commission

Silicones & Sustainability

1. Performance and durability
2. Spreadability
3. Flexibility vs. rigidity
4. Temperature & Humidity
5. Reduces resource/energy consumption
Silicones in the Environment - Behavior

- VMS are rapidly lost into the air and PDMS does not dissolve in water
- Rare to detect either of them in rivers or lakes.

- VMS evaporates into air degrading in the presence of sunlight to silica, water and carbon dioxide

- PDMS degrades when added to agricultural or other soils (clay)!

- Integral part of the aquatic environment
- During waste water treatment, in particular non-volatile silicones bind tightly to particulates
- Then removed from waste water during treatment and are processed as part of the sludge
- Sludge sent to landfill, incinerated or used to improve the quality of soils used for agriculture or other purposes

Wildlife Protection - Treatment with PDMS of otters caught in a large oil spill in Arctic waters. After using detergents to remove the oil, a PDMS coating gave their fur the necessary protection against the freezing waters until their natural waterproofing system could recover. They would not otherwise have survived!
Ending Misleading Free-from Claims

As of July 1st, 2019
In Europe, since SILICONES are SAFE as reviewed, it will NO LONGER possible to market products SILICONE-FREE
Clean Beauty: Safety over Origin

The optimal symbiosis between natural and synthetic!

https://www.today.com/today/embedded-video/mmvo52950085533
Clean Beauty: Present and Future Market?
Silicones: Correcting Misconceptions and Misinformation

- **Clog pores and cause acne?** NO!
- **Trick skin to feeling moisturized and not actually doing anything?** NO!
- **Prevent skincare actives to penetrate the skin?** NO!
- **Safe?** YES!
- **Good for sensitive skin?** YES!
- **Sustainable? Degradable?** YES!

**Silicones**
Thank you!
Do you have any questions?

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