



Stepan 
Personal Care

Formulation Inspiration:
*Upcoming Beauty Trends
and Stepan Personal
Care Solutions*

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Agenda

- Macro Trends
 - Men's Grooming
 - Looking to the Past for Inspiration
- Men's Collection Formulations
 - Deep-Dive into Structured Liquids Technology
- Modern Vintage Collection Formulations
 - Deep-Dive into Hot Pour Techniques



Macro Trend: Men's Grooming in Americas



Multiple
Benefits within
Customization



Need for
Naturalness &
Eco-Friendliness



Changing
Norms &
Inclusivity

Multiple Benefits Within Customization



The merits of multifunctionality are universal and continue to shape customized options.

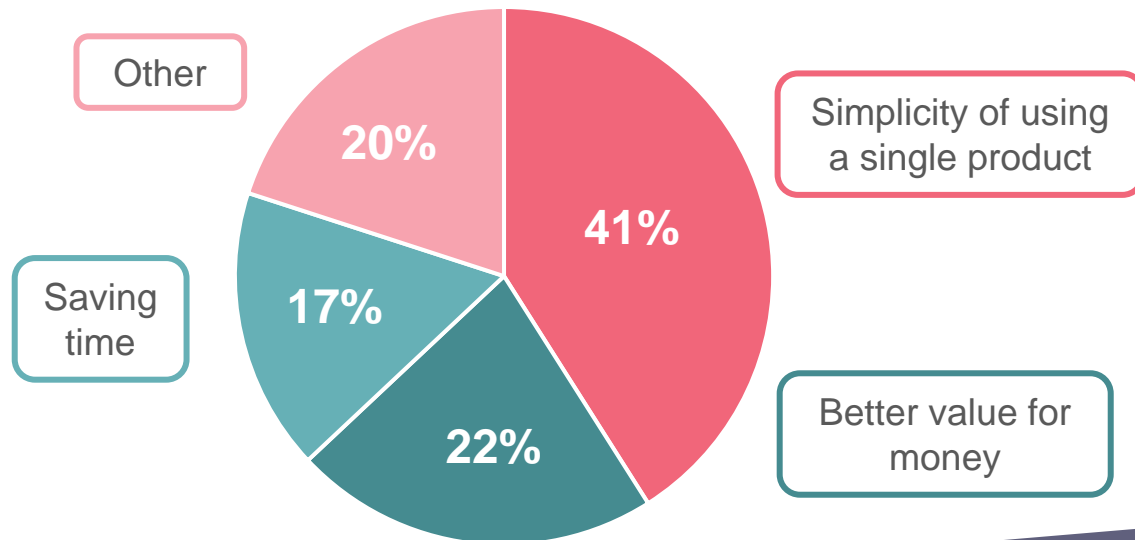
63% of younger male Gen Z users are influenced by **ease-of-use** claims when buying products

Source: Lightspeed/Mintel, Mintel GNPD 2019

21% of male skin care users would like their products to be **custom-made** for them

Source: Lightspeed/Mintel 2019

Why do consumers look for multifunctional products?



Source: Global Cosmetic Industries 2016

Lifestyle & Personal Care accounts for a third of the market offerings in **personalized subscription boxes**

Source: Accupac 2020

31%



Need for Naturalness

21% of men in the US agree that **environmental sustainability** is an important area of focus

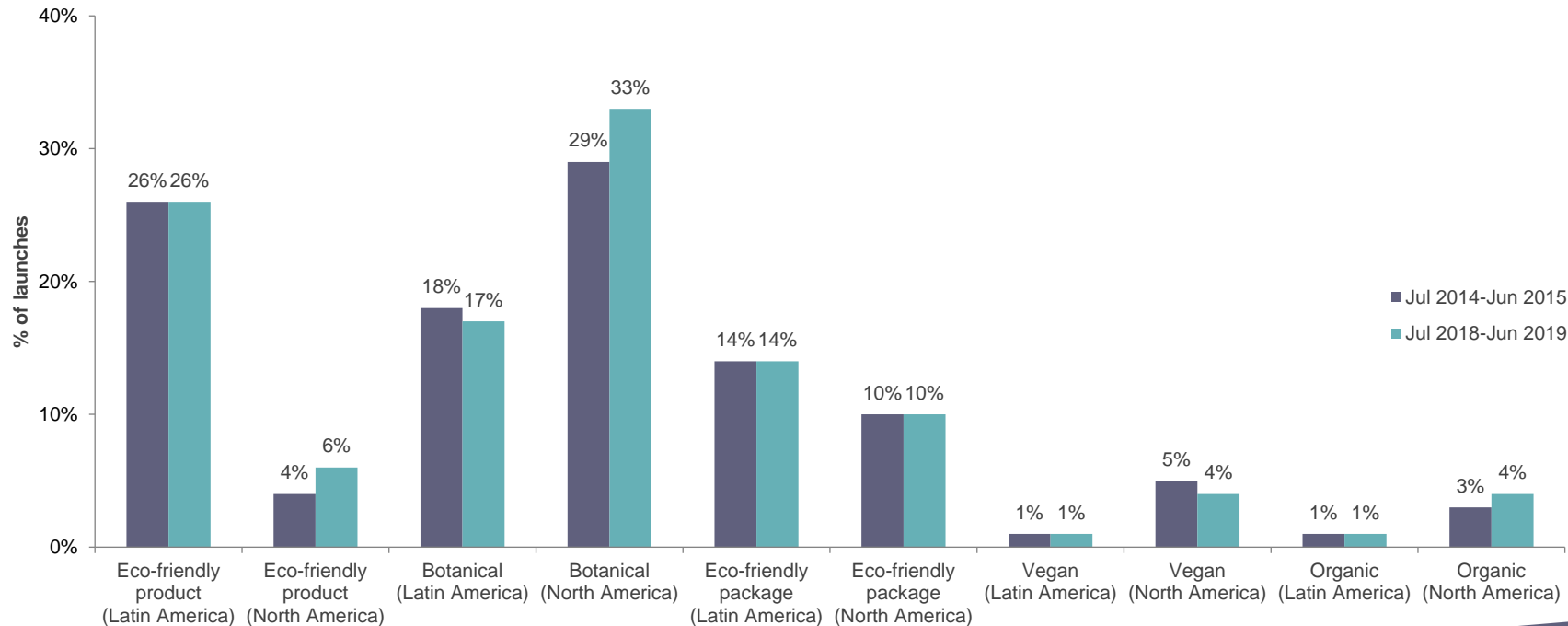
Source: Lightspeed/Mintel, Mintel GNPD 2019

16% of male personal care users **would pay more** for an eco or socially responsible brand

Source: Lightspeed/Mintel, Mintel GNPD 2019



Americas: men's BPC launches by select natural and eco claims, by region, 2014-15 vs 2018-19



Natural and eco/ethical claims are a sustained market need. Incorporating those benefits in men's products will be important.

Source: Mintel GNPD; 2019 Innovation in Men's Grooming Report

Changing Norms & Inclusivity



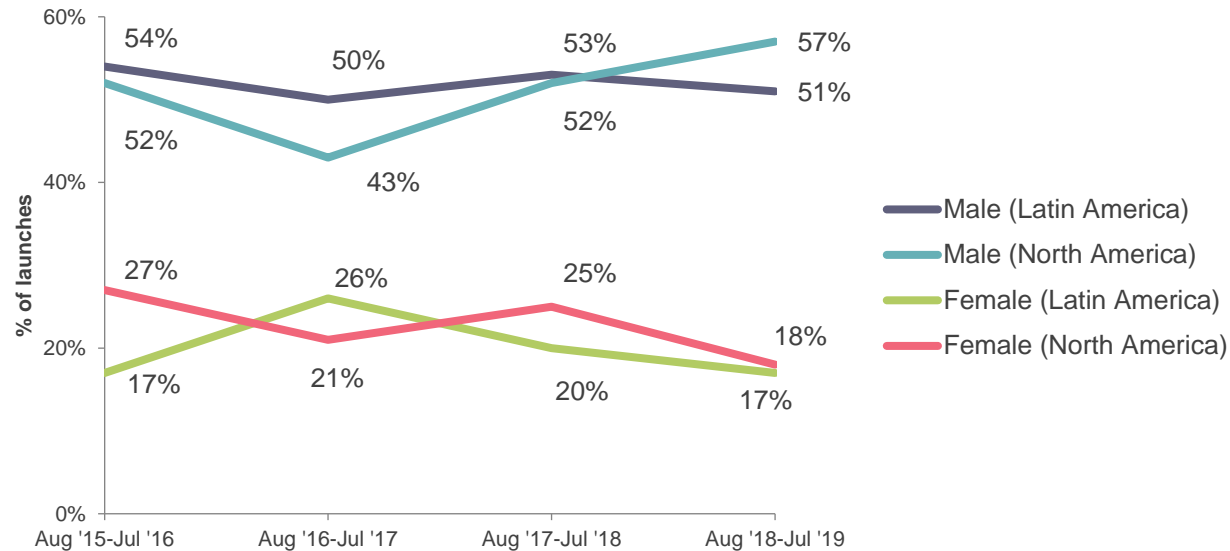
Consumers are shifting away from the traditional product claims they seek in their beauty items regarding gender specificity.

64%

of older iGen males in the US either already use or show interest in **genderless** beauty products

Source: Lightspeed/Mintel, Mintel GNPD 2019

Americas: shaving/depilatories NPD by male and female claims, by region, 2015-19



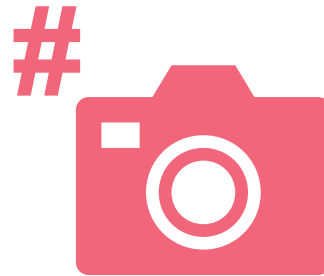
Source: Mintel GNPD; 2019 Innovation in Shaving

Global respondents who seek shampoo positioned specifically for gender in 2018:

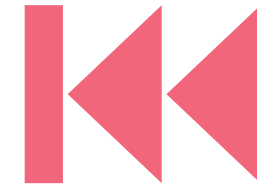


Source: Euromonitor International 2019

Macro Trend: Looking to the Past for Inspiration



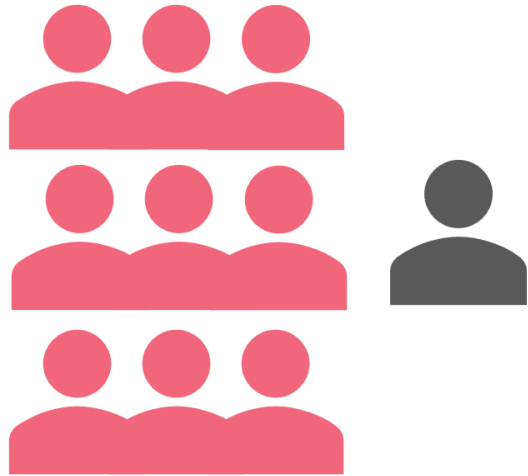
Finding Fond
Memories



Targeting Consumers'
Desire for Nostalgia

Finding Fond Memories

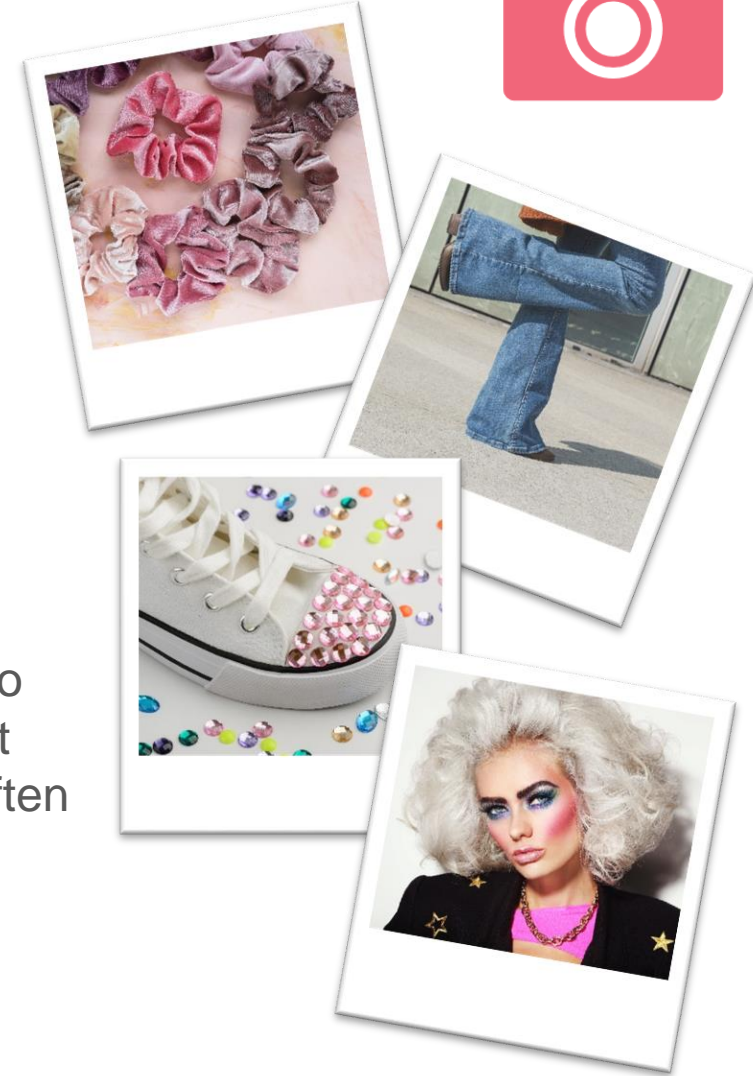
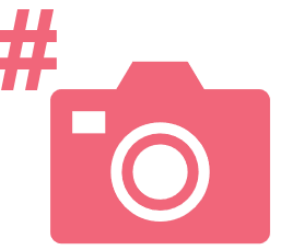
Have you recently joined the #ThrowbackThursday trend?
Is today's current environment leading us to think about how it used to be?



9 out of 10
people admit to
thinking fondly about
the past at least
occasionally



47%
of which admit to
doing so almost
always, or quite often



Targeting Desire for Nostalgia



According to a study by the Journal of Consumer Research, **nostalgia sentiment** can lead to **increased willingness to pay** for desired products.



Combatting consumer fatigue

- “I want to make an emotional connection. Too much is the same today.”



Promoting authenticity

- “They’ve been around awhile; I trust that brand.”



Creating shareable content

- #ThrowbackThursday



Combining past and present

- “Take my favorites and make them better.”





Men's Collection

A good skin care routine doesn't need to be complicated. This trio of formulations is a fuss-free way to care for and protect your skin on a daily basis.

SKIN SERUM

*with Caffeine
and Squalane*

BEARD OIL

*with Argan,
Avocado, and
Hempseed Oils*

CLEANSING MOUSSE

*with Allantoin,
Coconut Oil and
Vitamin E*

Cleansing Mousse *with Allantoin, Coconut Oil and Vitamin E*

Formulation No. 1347

A daily-use cleanser that can easily double as a shaving cream, this sulfate-free cleanser gently removes dirt and excess oil while moisturizing skin (and beard!) with natural moisturizers. This formulation also contains allantoin which, when used within FDA guidelines, can be considered a skin protectant active ingredient.

Ingredient		Wt. %	Function
A	MAPROSYL® 30-B <i>Sodium Lauroyl Sarcosinate</i>	10.80	Sulfate-Free Primary Cleanser
	Lauryl Glucoside	4.30	Secondary Surfactant
	AMPHOSOL® HCG-HP <i>Cocamidopropyl Betaine</i>	3.20	Naturally Derived Foam Booster
	Citric Acid, 50% w/w solution	q.s.	pH Adjuster
B	STEPAN-MILD® GCC <i>Glyceryl Caprylate/Caprate</i>	7.30	Natural Structuring Agent
	Deionized Water	q.s. to 100.00	Carrier
	Preservative	q.s.	Aesthetics
C	Lauric Acid	0.70	Cleansing/Skin Feel
	Cocos Nucifera (Coconut) Oil	0.90	Emollient
	Sodium PCA (Sodium L-Pyrroglutamate)	0.50	Humectant
	Allantoin	0.05	Skin Feel
	Tocopheryl Acetate (Vitamin E)	0.50	Antioxidant
	Fragrance	q.s.	Aesthetics

Achieve Large
Foam Profiles with
Stepan's Patented
Structured Liquids
Technology

Typical Properties at 25°C

Appearance: Opaque, flowable liquid

pH, as is: 5.0 – 5.5

Viscosity: <1,500 cps



Structured Liquids Technology



STEPAN-MILD GCC + **Anionic Surfactant(s)** = **Suspension System**
Natural Structuring Agent Ex: SLES, Sarcosinate, MES, AOS

Advantages:

- ✓ Polymer-free
- ✓ Possibility of clear systems
- ✓ Electrolyte-free (no salt needed)
- ✓ Flexible — use anionic surfactant of choice
- ✓ Good foaming properties
- ✓ Excellent skin feel properties

Suspend What You Want!



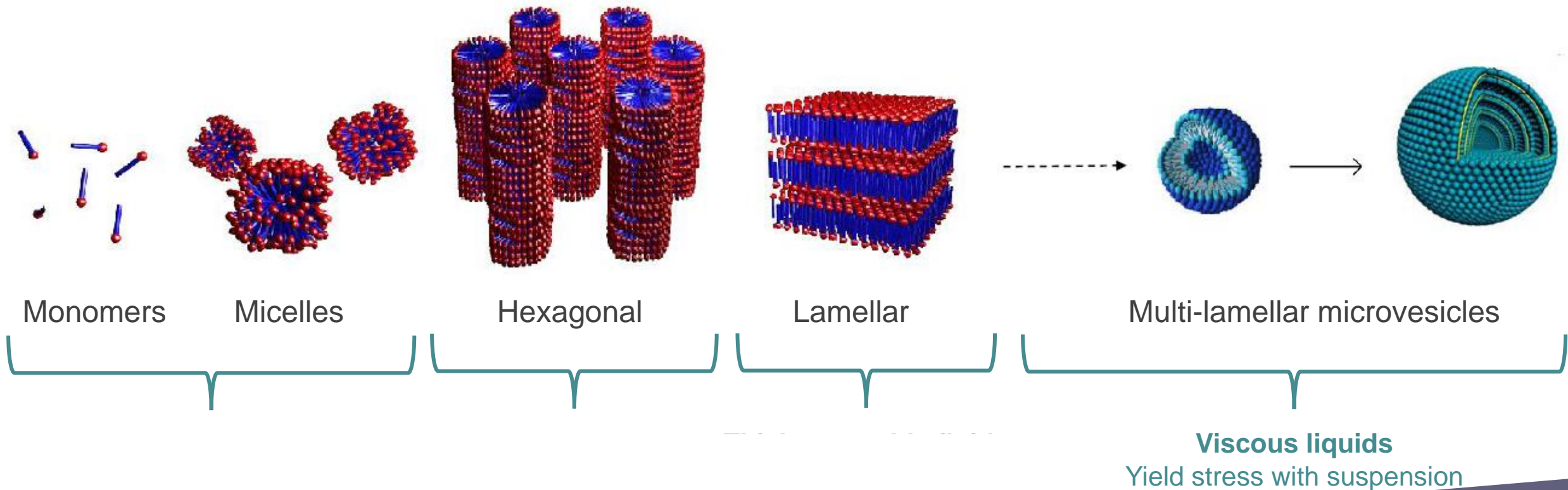
SLES: Sodium Laureth Sulfate
MES: Methyl Ester Sulfonate
AOS: Alpha Olefin Sulfonate

Surfactant Self-Assembly



Key Process Features:

- STEPAN-MILD GCC interacts with other surfactants to form **multi-lamellar microvesicles**
 - Liposome-like structures that provide stability and yield stress, even at high temperatures



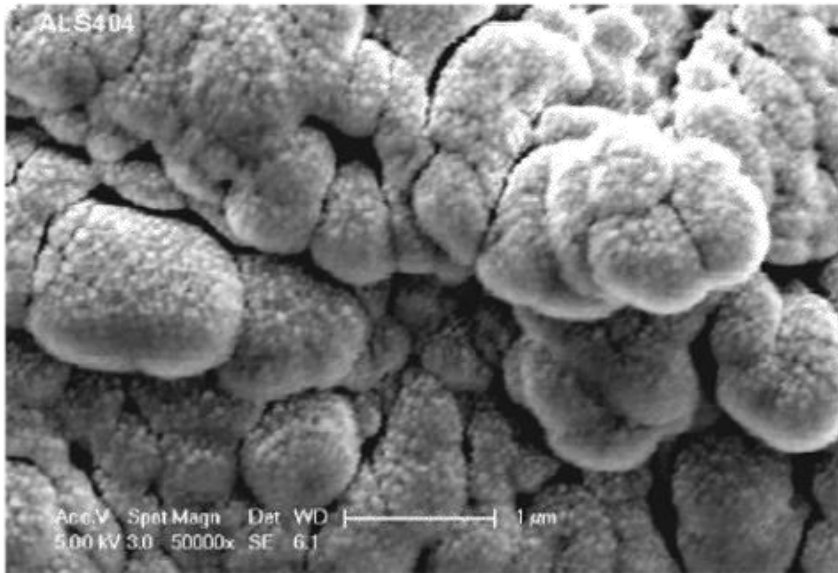
Surfactant Self-Assembly



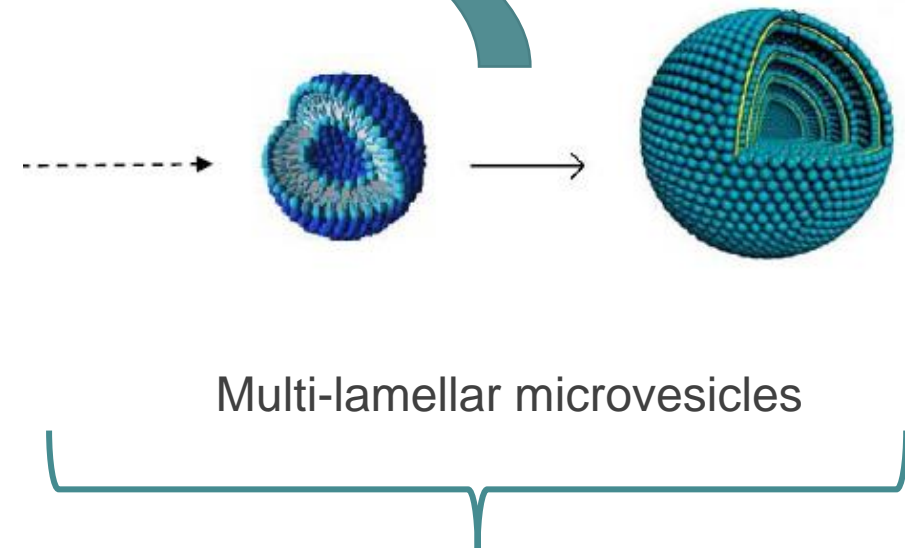
Key Process Features:

- STEPAN-MILD GCC interacts with other surfactants to form **multi-lamellar microvesicles**
 - Liposome-like structures that provide stability and yield stress, even at high temperatures

Freeze/fracture electron microscopy



Sphere diameter \approx 66 nm



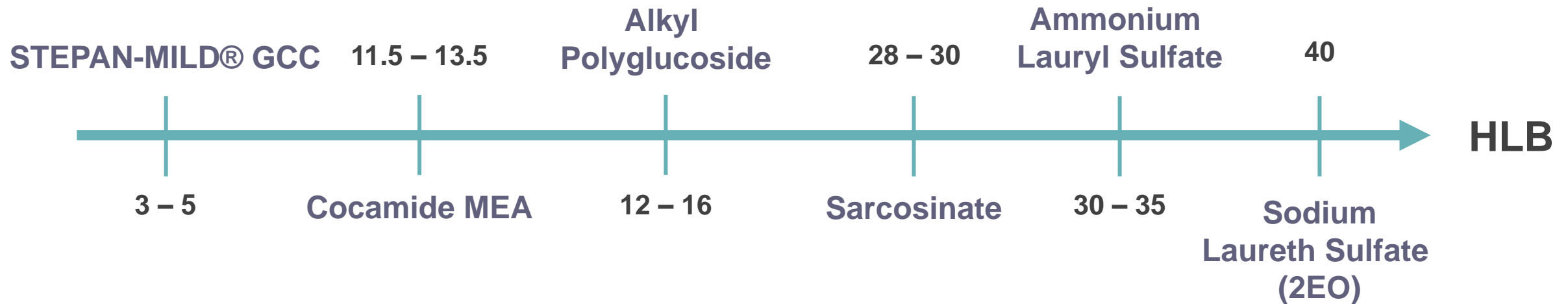
Viscous liquids
Yield stress with suspension

Target Surfactant Ratios Using HLB



Key Process Features:

- Relies on Hydrophile-Lipophile Balance (HLB) of the ingredients
- To obtain micro-vesicles, need a surfactant mixture between 10 and 12 HLB
- Once formulated, adjustments can be made based on performance and aesthetics



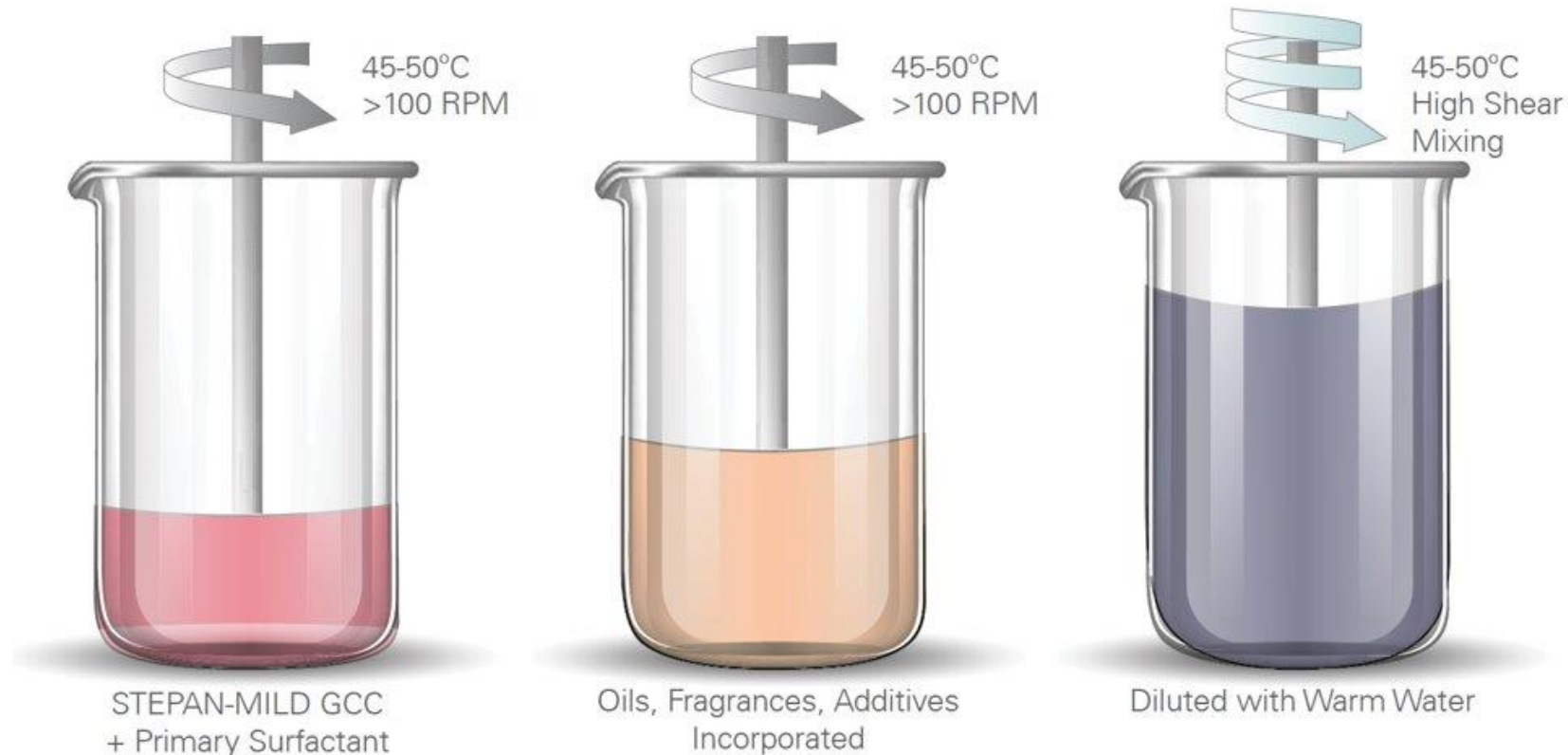
$$x(GCC) = \frac{HLB(Anionic) - HLB(mixture)}{HLB(mixture) - HLB(GCC)}$$

Proper Mixing Technique



Key Process Features:

- A unique and simple mixing procedure is employed to form the multi-lamellar vesicles



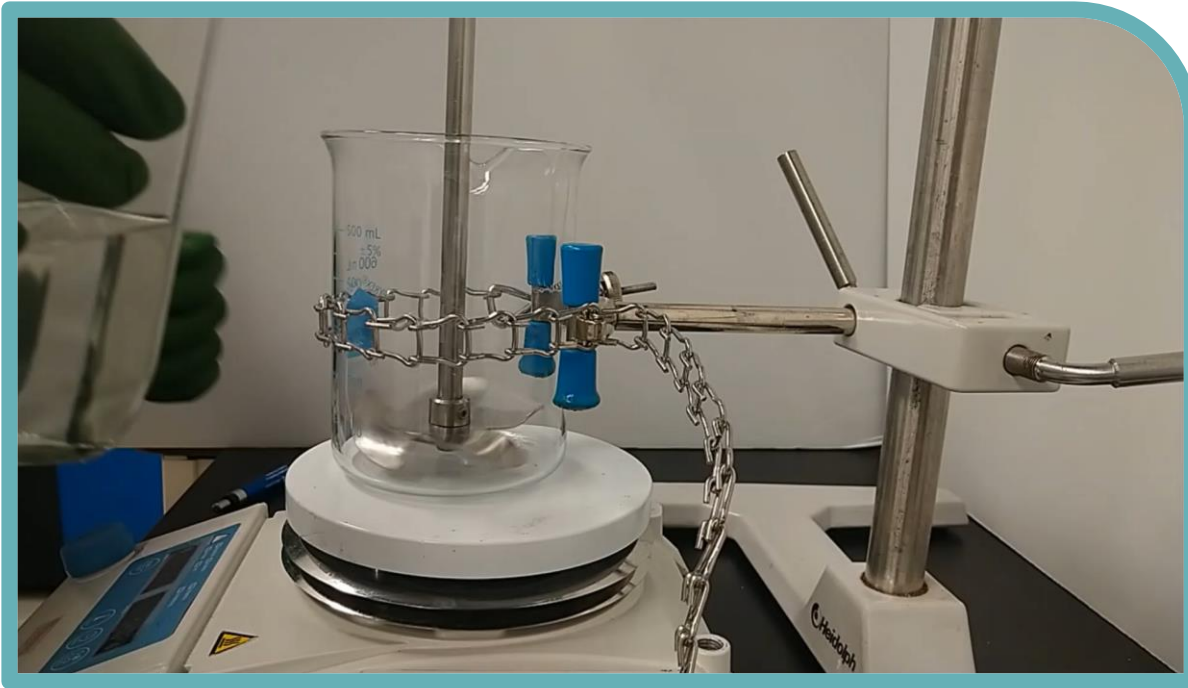
Proper Mixing Technique



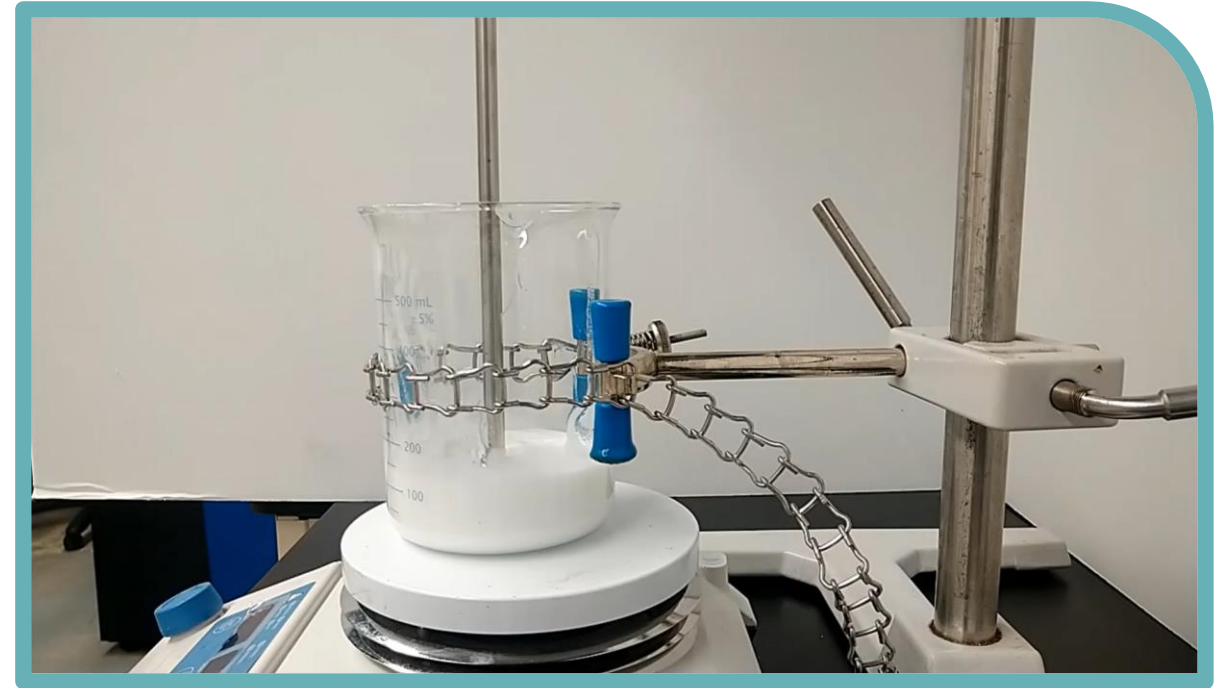
Process Videos of Cleansing Mousse



Phase 1

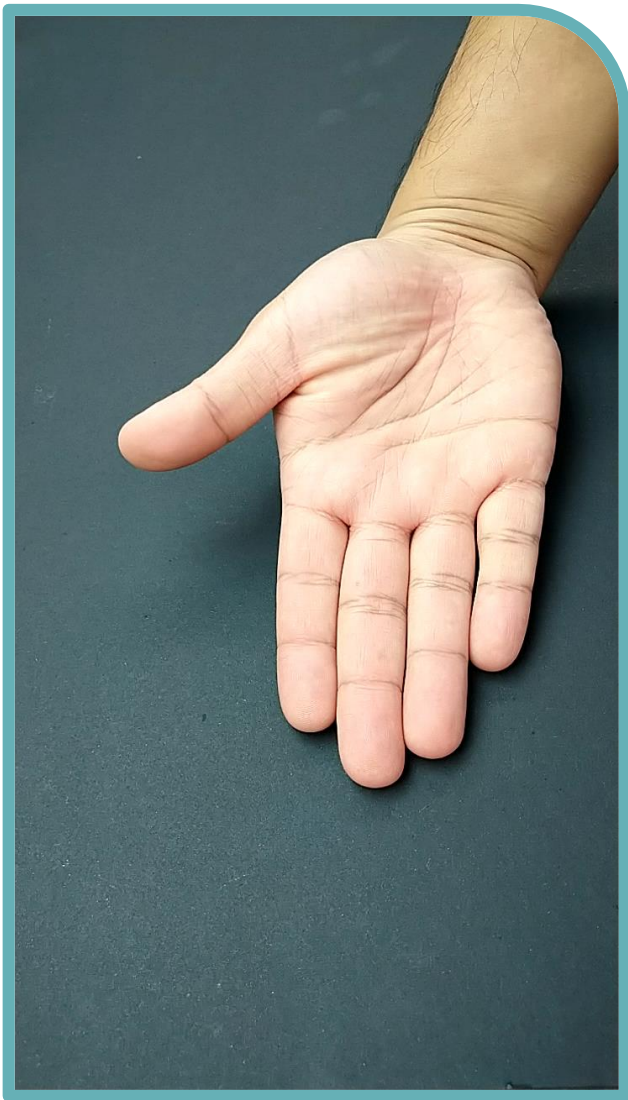


Phase 2 & 3



Videos at 16x speed

Improved Foam Profile

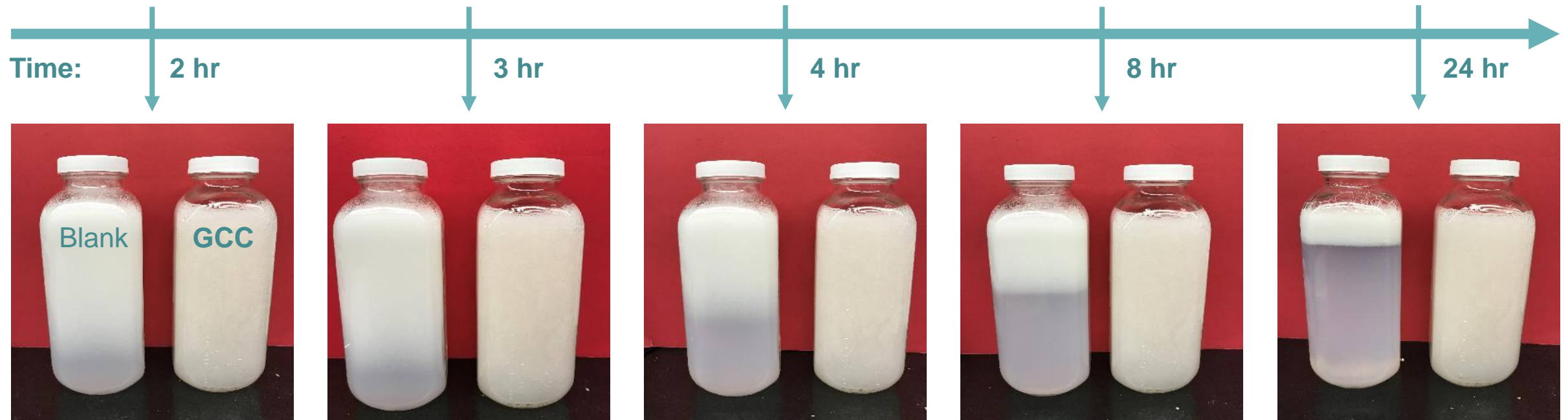


Enhanced Stability



Improved Stability is an added benefit within formulation

Cleansing Mousse formulation was made with and without STEPAN-MILD GCC for evaluation



1 kg batch size at room temperature



Modern *Vintage* Collection

Classic formulations are refreshed with contemporary ingredients in the Modern Vintage Collection. Featuring a cold cream, shaving soap, and rouge, this collection is focused on using modern, naturally derived ingredients to replace traditional synthetics.

ROUGE

**SHAVING
SOAP**

**COLD
CREAM**

ROUGE

Formulation No. 1344

The Modern Vintage Rouge Stick combines natural oils and waxes with plant-based emollients to create a vegan formulation that is 99.6% naturally derived. Use this rouge on your eyes, cheeks and lips for a glamorous pop of color. This formulation features Stepan's NEOBEE® M-5 COSMETIC, a natural emollient that helps hydrate the skin upon application.

	Ingredient	Wt. %	Function
A	Butyrospermum Parkii (Shea) Butter	39.20	Structure Agent
	WECOBEE® M <i>Hydrogenated Vegetable Oil</i>	19.20	Natural Emollient
	NEOBEE M-5 COSMETIC <i>Caprylic/Capric Triglyceride</i>	8.70	Natural Feel Enhancer
	Helianthus Annuus (Sunflower) Seed Oil	12.50	Natural Emollient
	Euphorbia Cerifera (Candelilla) Wax	8.70	Viscosity Modifier
	Copernicia Prunifera (Carnauba) Wax	4.20	Viscosity Modifier
	Tribehenin	1.50	Structure Agent
	C11-14 Isoalkane	1.50	Plant-Based Silicone Alternative
B	C17-26 Isoalkane	1.50	Plant-Based Mineral Oil Alternative
	Tocopheryl Acetate (Vitamin E)	0.10	Antioxidant
	Dye	q.s.	Aesthetics

100% Bio-Based
Cocoa Butter
Alternative

Vegan
Formulation



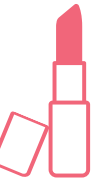
Typical Properties at 25°C

Appearance: Light yellow solid

Stepan
Personal Care

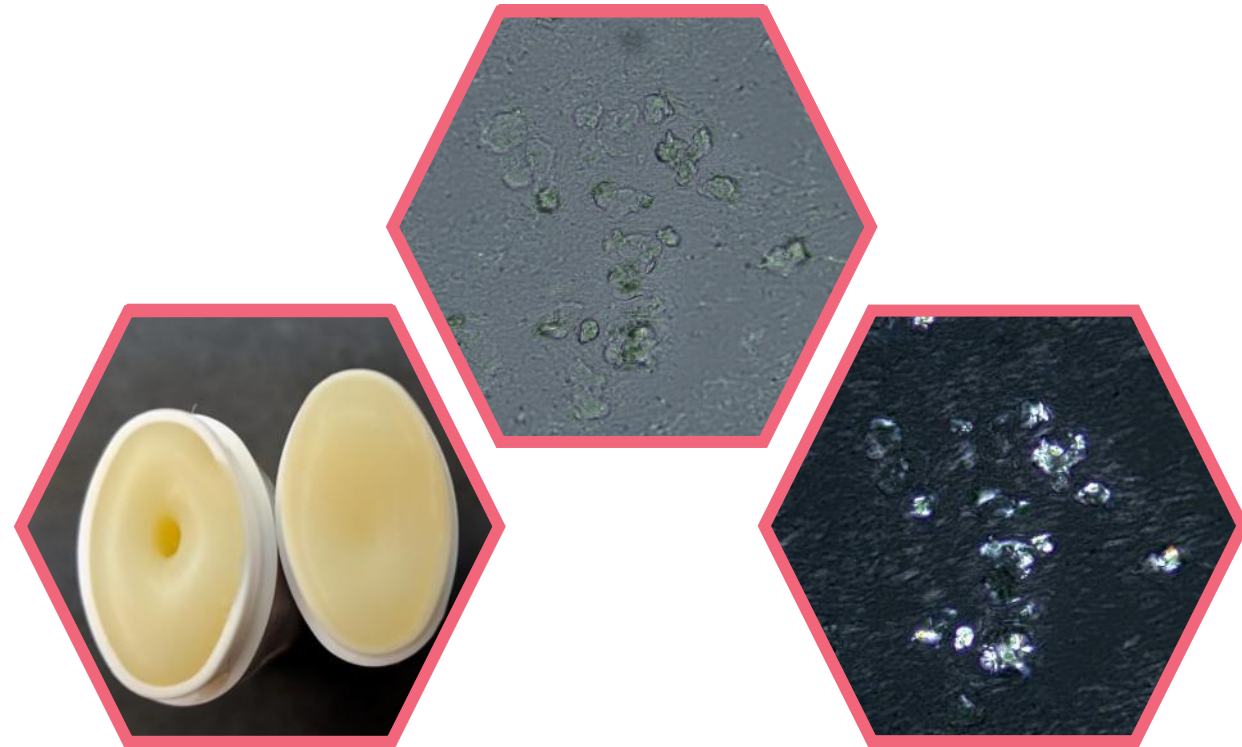


Hot Pour Techniques

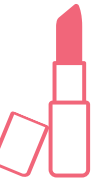


Key Steps to Formulating a Stable Hot Pour Formulation:

1. Optimal Casting Temperatures
2. Filling Tips
3. Assessing the Results
 - Appearance & Aesthetics Evaluation
4. How to Target Modifications
5. Finalization



Step 1: Optimal Casting Temperatures



Heating Up



55°C



- Hazy to Opaque
- Bulk Not Fully Melted

Optimal Filling Temperature



75°C



70°C



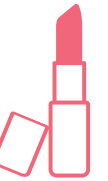
- **Clear**
- **Wax Fully Melted**

Cooling Down



- Hazy to Opaque
- Bulk solidification starting

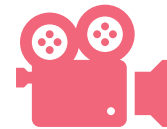
Step 2: Filling Tips



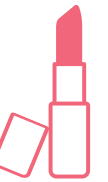
1. Take 3 casting temperatures from Step 1 and fill the component.
 - When filling, make sure to:
 1. Pour the molten on the threaded center
 2. Fill the component until you see a dome concavity shape



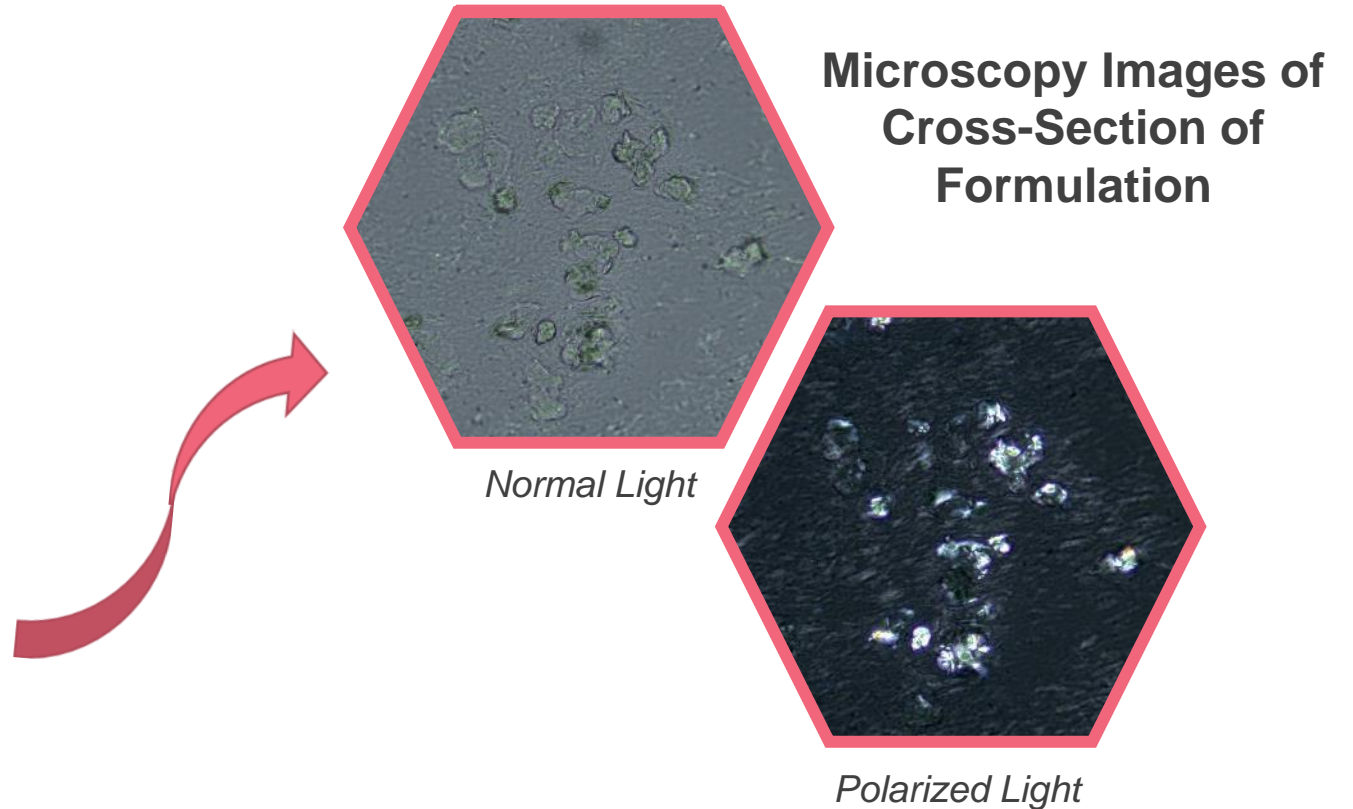
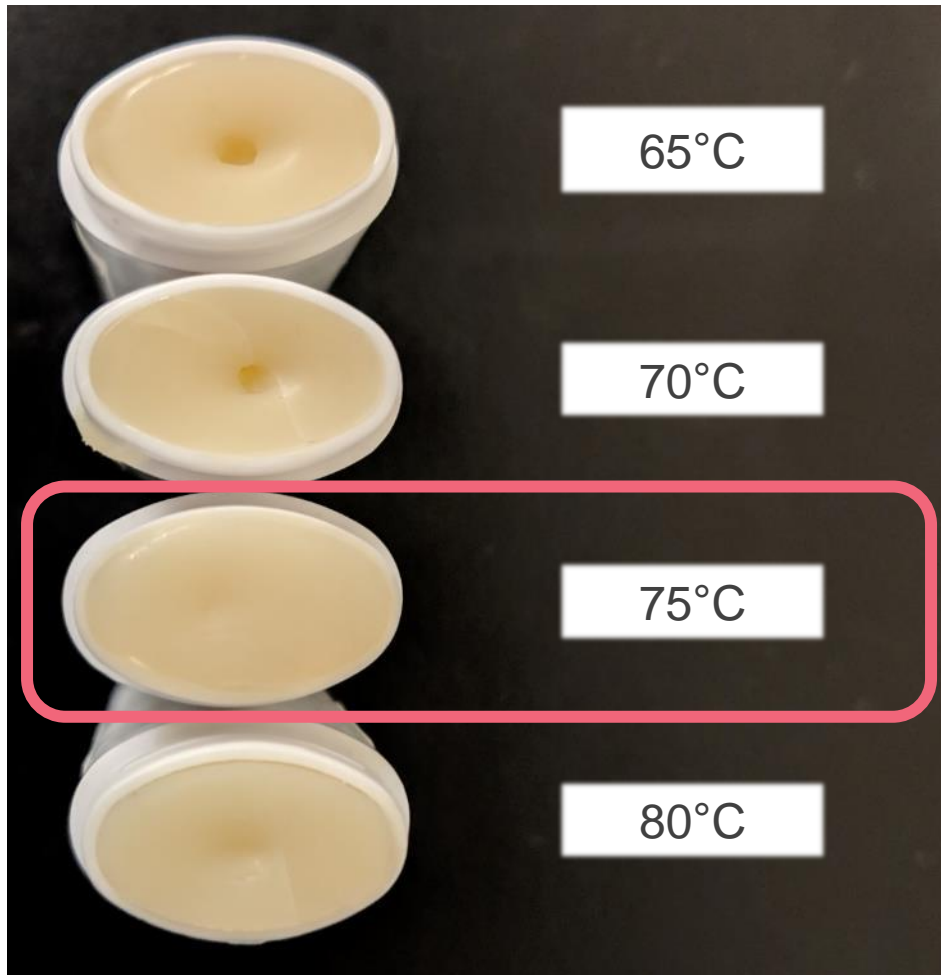
2. Allow product to cool and set for at least 12 hours
 - Allows for the alpha and beta structures to fully set



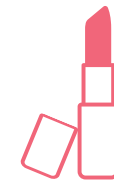
Step 3: Assessing the Results



1. Find the Ideal Casting Temperature



Step 3: Assessing the Results



2. Record observations of the following



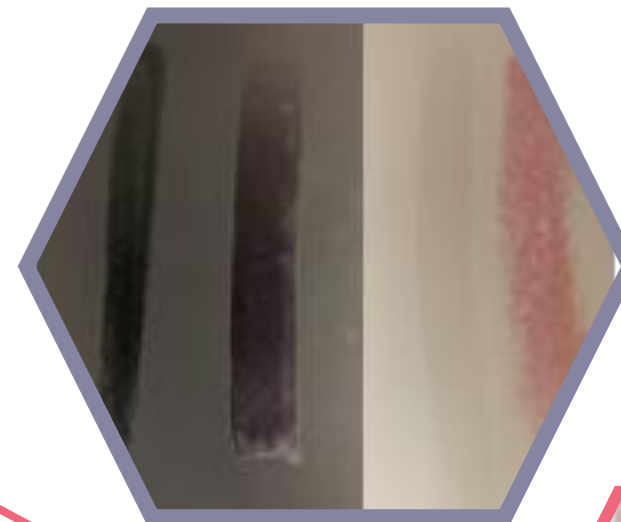
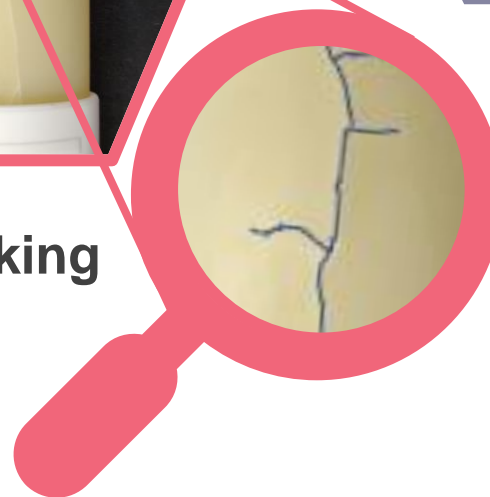
Pitting/Cavitation



**Non-Uniform
Casting**



Cracking

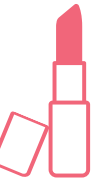


Payoff



**Feel on
Application**

Step 4: Modifying the Formula



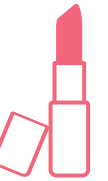
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	Dye	q.s.	Aesthetics	

Typical Properties at 25°C

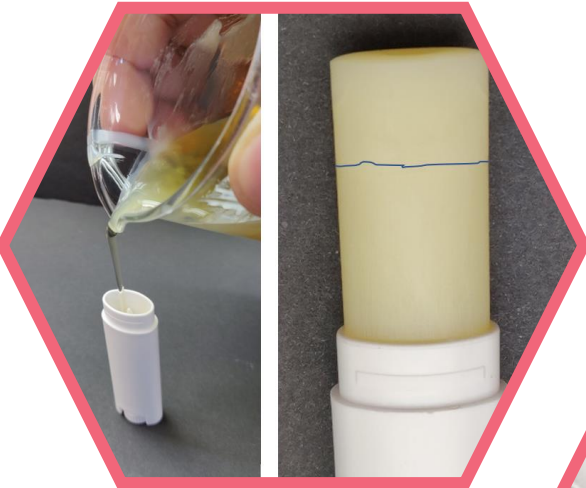
Appearance: Light yellow solid



Step 5: Finalization



1. Cavitation Workup



Double Fill

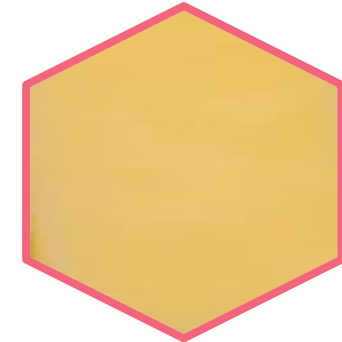


**Overhead
Heating
Element**

2. Bulk Considerations



**Holding
Temperature & Time**



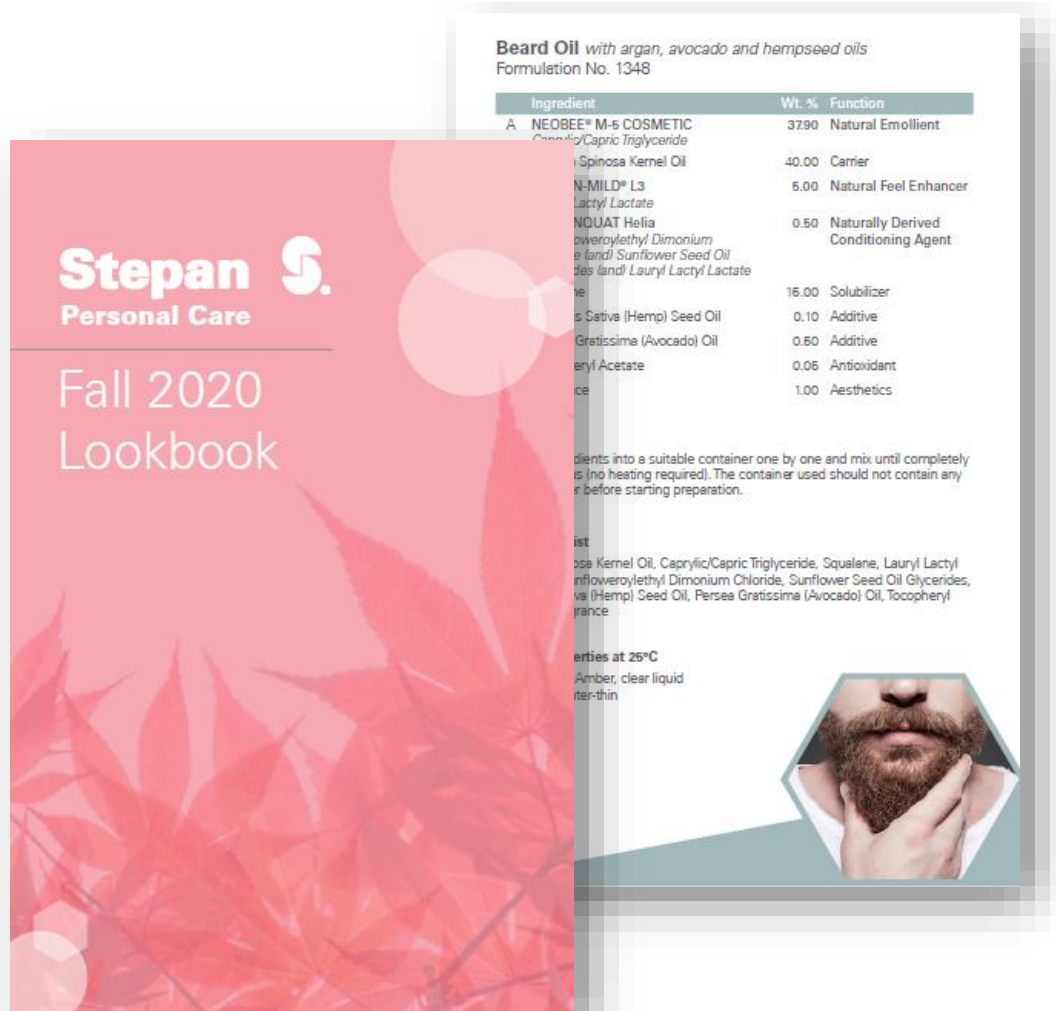
3. Document Characteristics

Penetrometer

Melting Point

Appearance

Fall 2020 Lookbook



Find full formulation details for the Men's Collection and Modern Vintage Collection in Stepan Personal Care's **Fall 2020 Lookbook!**

go.stepan.com/Fall2020Lookbook

Resources



Visit: stepan.com/personalcare



Stepan 
Personal Care

Thank you!

Visit www.stepan.com for more information.

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Nov 2020