

## Shea butter is a highly valued & broadly known ingredient by consumers and manufacturers

Global Shea Aliance, State of the Industry 2022 Among industry experts, there is no doubt that shea is a highly-valued ingredient in all types of personal care products. This is because it "checks so many boxes" among consumer preferences: a natural ingredient with highly desirable moisturizing and sealing properties that is good on the planet and provides a significant source of economic opportunity for women in rural Africa

69% of US consumers are aware that Shea oil/butter is used as an ingredient in personal care products

AAK online consumer study, March 2024

Article by National Programs in March 2022

85% of consumers worldwide prefer skin care products that contain natural ingredients like shea butter

AAK study Plant-based foods in USA, March '24,. Plant-based dairy consumers n=287



# This can be seen in the high level of penetration & communication in personal care products

#### Penetration in new launches per segment

- 5-7% Cleansers, shampoos, shower products & deodorants
- 14-18% Eye&face care, hair treatments, conditioners, bar soaps, lip colour
- 30-35% body & foot care
- 50-55% hand/nail and lip care

#### Key claims in shea containing products

- 76% Botanical/herbal (vs. 44%)
- 66% Moisturizing / hydrating (vs 37%)
- 38% Ethical/environmental (vs 28%)

Penetration is growing 4% y-o-y on average





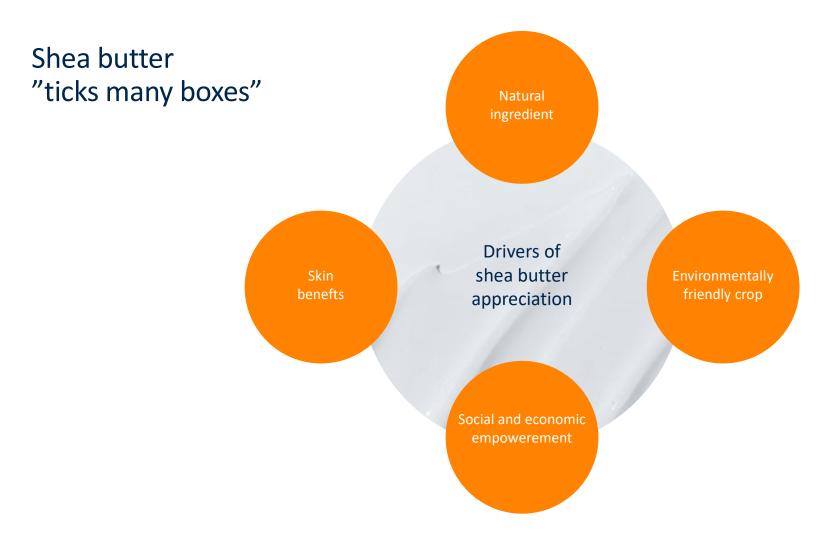






Mintel GNPD, Launches containing the INCI: Butyrospermum parkii butter worldwide, 2021-244







### Natural ingredient

• Consumers look for **natural**, **sustainably sourced ingredients** and want **transparency** about them

What product features are you looking for in beauty?

- 29% All natural ingredients
- 23% Ingredient transparency
- 16% Sustainably sourced
- Natural ingredients offer environmental benefits but also align with the growing consciousness among consumers regarding health and wellness.
- This is preference is accentuated in younger generations (millennials and Gen Zs) who are especially drawn to clean beauty and products free from synthetic ingredients

Top Trends Shaping the Beauty and Personal Care Industry – Euromonitor, June 2024 Skincare Analysis: Boomers vs. Millennials vs. Gen-Z Global Natural Cosmetics Market Size, Trends, Share 2033



# Shea Trees Have Positive Environmental Benefits

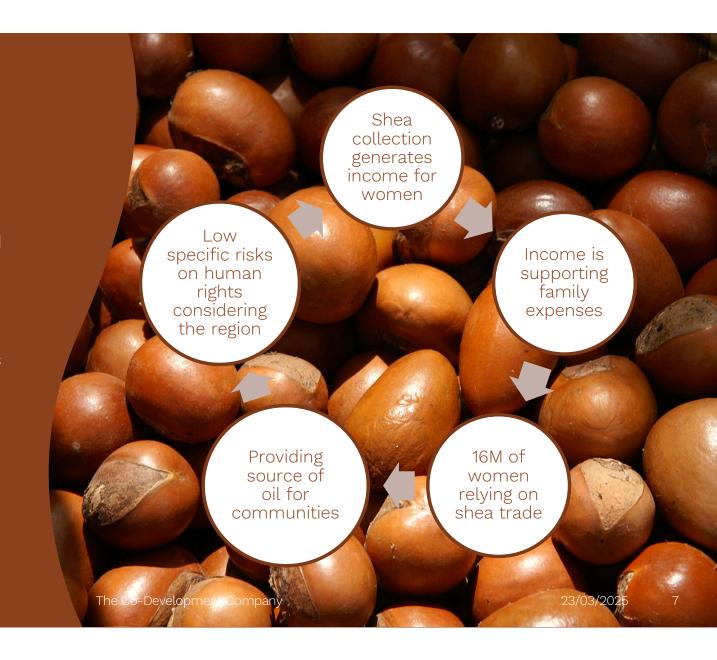
- Grow wild in parkland or in mixed agroforestry systems
- Sequester CO<sub>2</sub> from the atmosphere.
- Help fight desertification
- Facilitate protection of biodiversity
- Manual collection is non-invasive.
- No active use of fertilizers or pesticides.





## Shea Has Social and Economic Benefits

- Shea supports the empowerment of women.
- 900.000mt of kernels are collected and around 55% exported. The remainder is processed locally or provides a source of oil for households.
- 237 M\$ of economic impact across Africa at a local community level from the shea trade





### Skin Benefits

- Shea butter, like most other vegetable oils & fats is composed primarily of tryglicerides
- One of its uniqueness, is its high content of non-glycerides compounds, commonly known as unsaponifiables.
- The primary compounds within unsaponifiables are triterpene esters. Triterpenes are well known for their skin regenerating and protecting properties.
  - A commonly used oil has typically below 1% of unsaponifiables, including triterpene esters.
  - Typically, a refined shea butter has a content of triterpene esters in the range of **2-6%**.
  - AAK liquid shea butters have a triterpene content 9,5-11.5%, which represents around 2x of a refined shea butter.

Shea Butter Extract for Bioactive Skin Care | Cosmetics & Toiletries
The Effect of the New Lupeol Derivatives on Human Skin Cells as Potential Agents in the Treatment of Wound Healing - PMC



Are You Using Shea Butter to its Full Potential?





# AAK's Liquid Shea Solutions Have Been Designed to Overcome Common Challenges with Shea Butter & Expand Your Toolbox

#### LIPEX® 205

INCI: Butyrospermum parkii butter

Low-spreading, rich in triterpene esters and linoleic acid, it delivers high stability & moisturizing benefits to formulations.

#### LIPEX® SheaLiquid TR

INCI: Butyrospermum parkii butter

This climate-compensated, fully traceable, low-spreading liquid butter is rich in triterpene esters and linoleic acid and delivers high stability and moisturizing benefits.

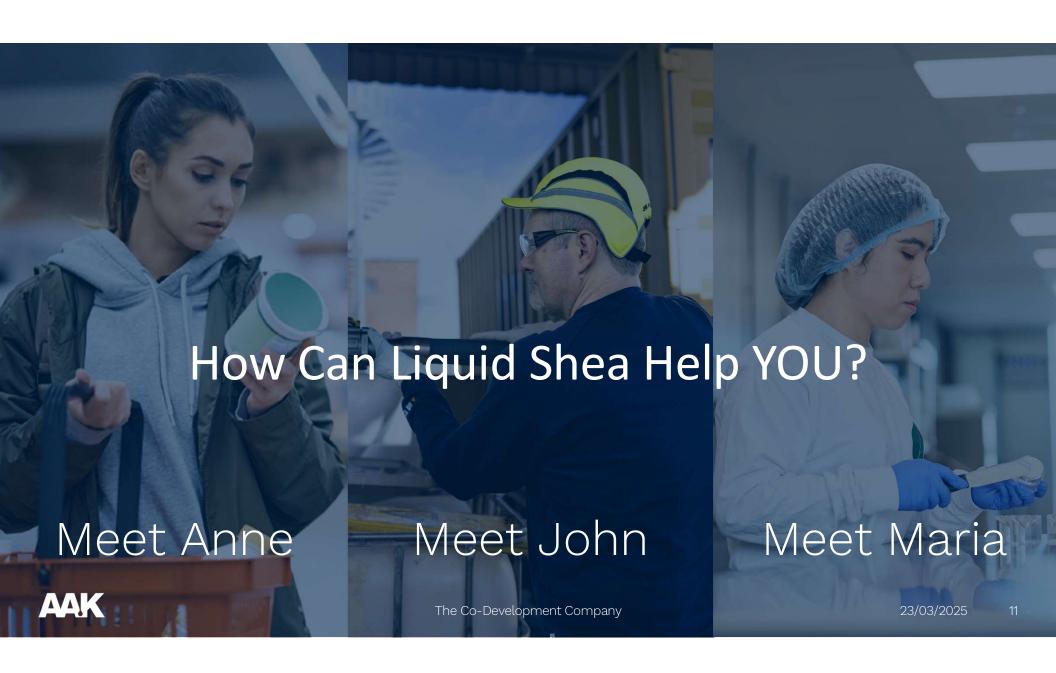
#### LIPEX® SheaClear

INCI: Butyrospermum Parkii Oil

This clear and low-spreading oil with moisturizing and conditioning benefits is ideal for creating translucent and transparent formulations\*

(\*)When using LIPEX® SheaClear up to 25%







### Meet Anne

- Anne works developing personal care products
- She is constantly looking for inspiration:
  - Innovative ingredients with an associated storytelling
  - Playful, on-trend textures
  - Ingredients that help her stay relevant with trends
- Anne is familiar with shea butter, she knows it as an appreciated butter in the industry that provides texture and consistency to formulations

See here how AAK's liquid shea can support Anne in her product development journey



### Meet John

- John works in production in a cosmetics company
- Continuous improvement is in John's DNA and he has targets on improving efficiencies in the factory both in terms of productivity but also in terms of environmental impact.
- He is in regular contact with the product development teams in order to study ways that those efficiencies can be made a reality.
- He has worked with butters in the factory, and his experience is that they are not always the easiest ingredient to work with

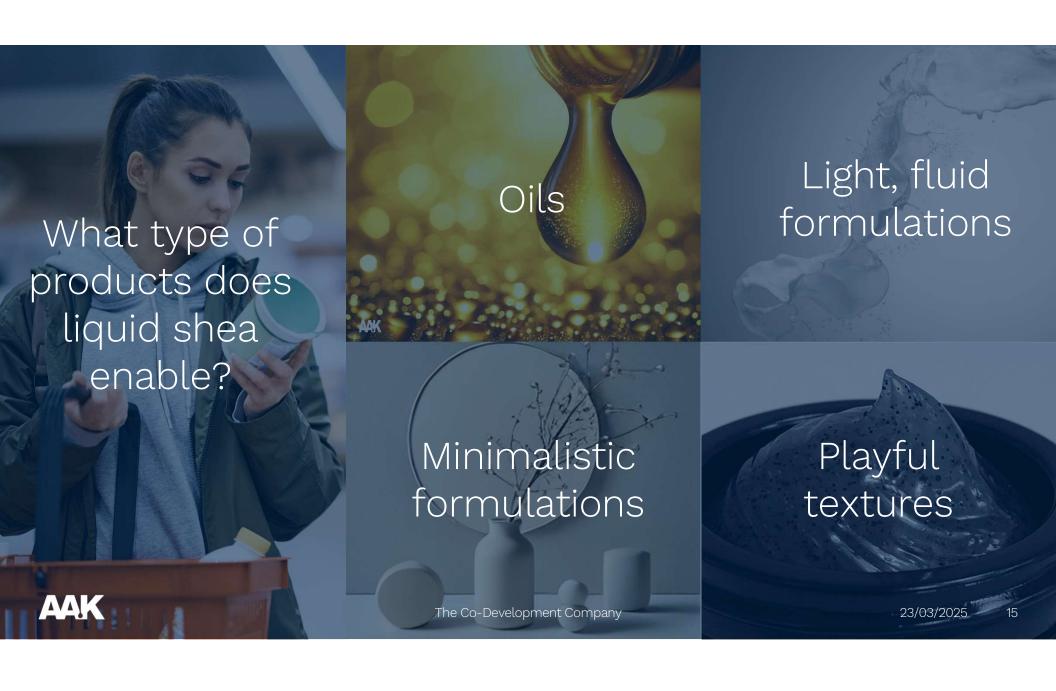
See here how AAK's liquid shea can support John achieve his efficiency improvements

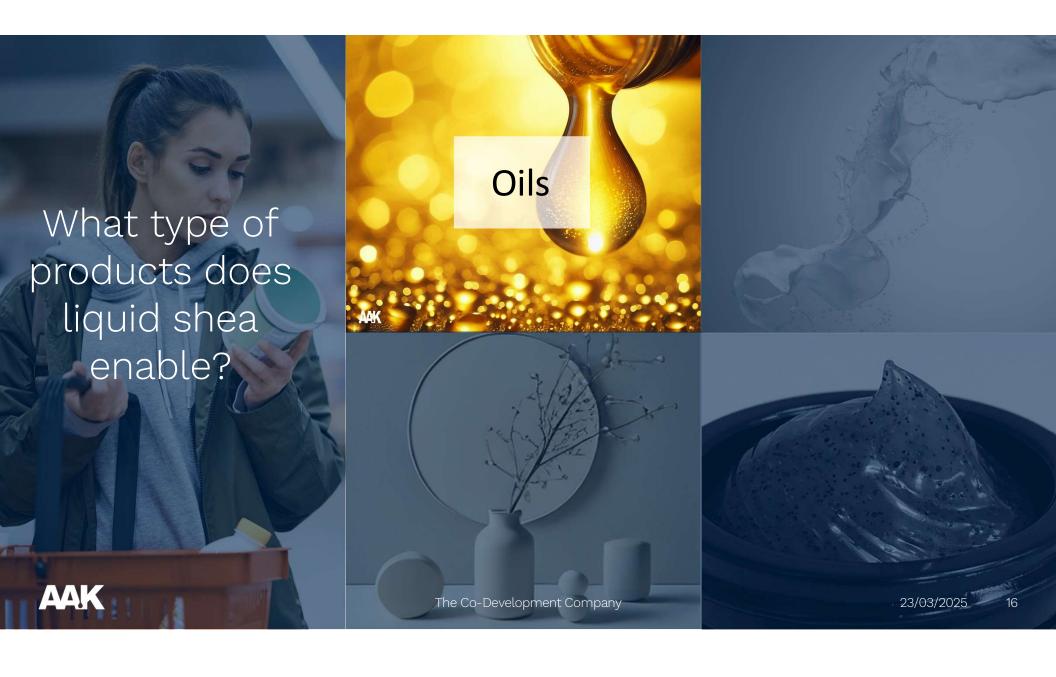


### Meet Maria

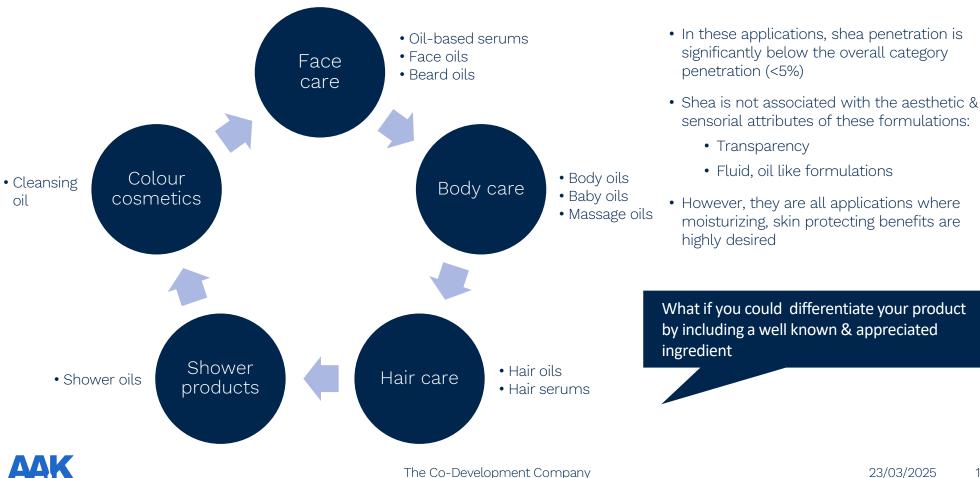
- Maria is a formulator. With speed to market increasing, there is a growing pressure on formulation development time.
- She looks for ingredients that are as robust as possible and that are easy to formulate with. Working with robust ingredients that don't often pose stability challenges eases her work significantly.
- She has worked with shea butter, and is aware that depending on the dosage and the other ingredients in the formulation, you need to be mindful while formulating and upscaling

See here how AAK's liquid shea can support Maria making formulating worry free





### Oil continuous products don't often contain shea



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## Liquid shea allows you to bring desired skin, planet & people benefits to oil formulations

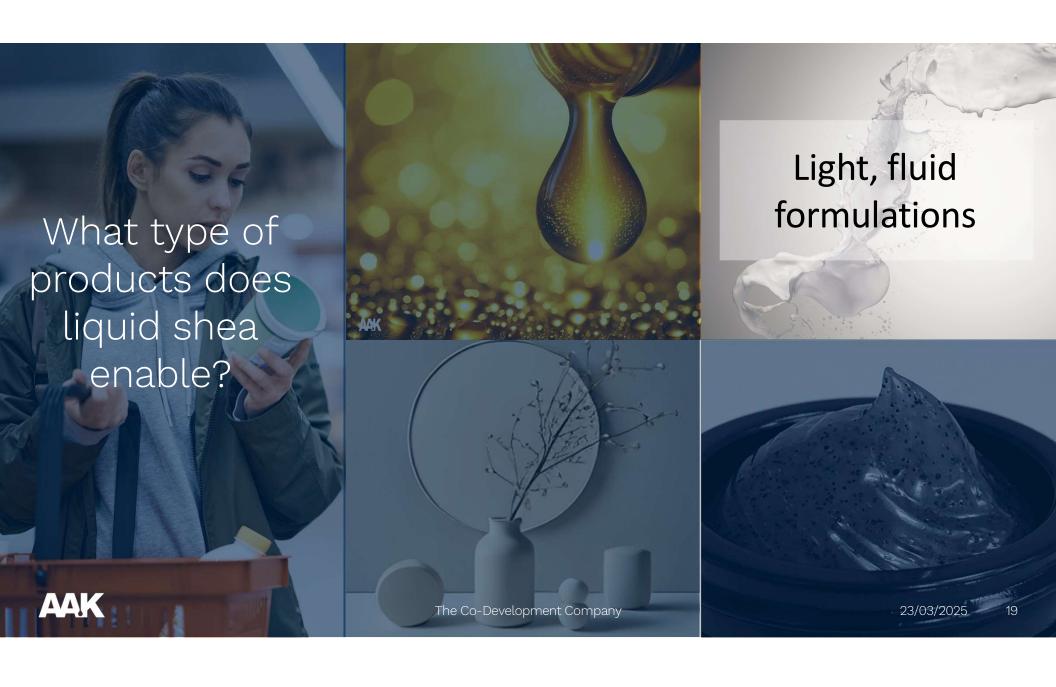
· Studies show that you can, in most cases, include up to 25% of LIPEX SheaClear and obtain formulations which will be clear at 15°C and above.

Check out some of our shea containing oil formulations in our











### Fluid / lighter consistency products

- Usage of shea butter is traditionally reserved or associated with applications that are richer, thicker like hand or body care
- Shea butters is less top of mind when thinking about:
  - Fluid formulations (conditioners, "milky" body lotions...)
  - Lighter, less rich formulations (face/eye care)
- → Skinification trend, selfcare trend, interest in sustainable solutions... multiple key personal care trends support the use of shea in the above formulations

How can liquid shea enable this?

## By using liquid shea, more fluid, less thick formulations can be obtained

- To showcase how big a difference in texture can be achieved, two water-in-oil emulsions have been created.
- They are exactly the same, with the only difference being whether LIPEX Shea or liquid shea (LIPEX 205) is used as the only emollient in the oil phase.



Liquid shea is a key additional tool in your toolbox, to give you all the goodness on skin, people and planet of shea butter — with the benefits of being able to work with a liquid ingredient.

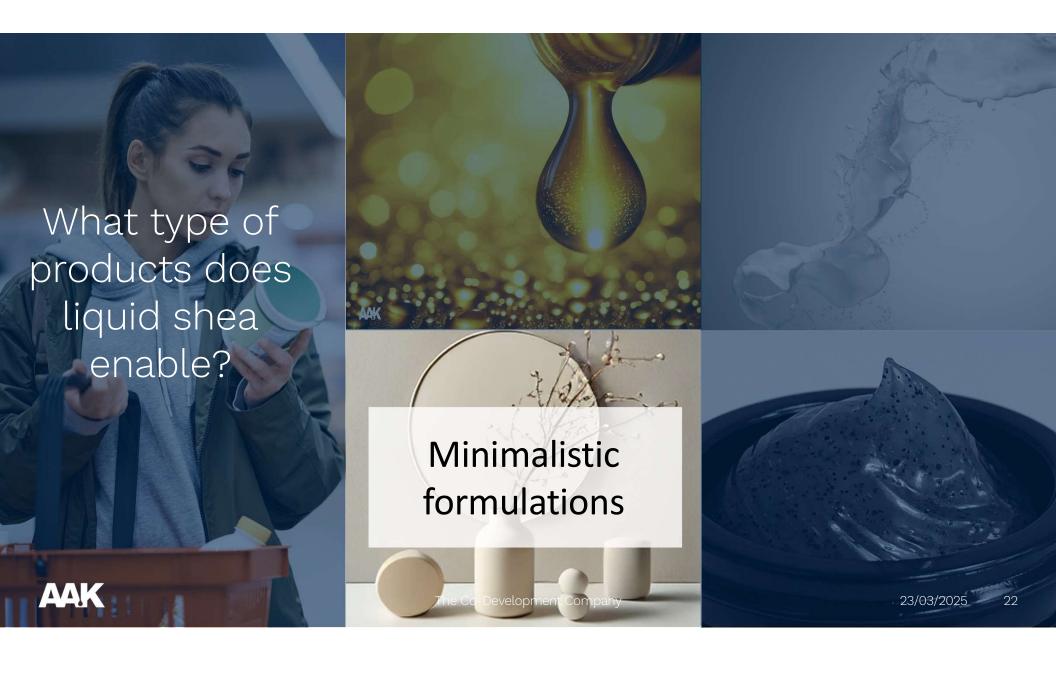


LIPEX® Shea

LIPEX® 205

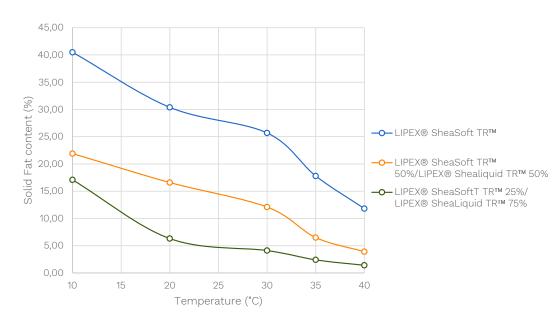
Formulation: 30% shea butter, 2.5% Polyglyceryl-3-Polyricinoleate, 0.5% Sodium benzoate/Sodium Sorbate, 5% Glycerin, 1.5% Magnessium sulfate anhydrous, 60.43% water, 0,07% citric acid





# By combining liquid and solid shea butter you can create a broad range of consistencies with one INCI

## Solid fat curves of different blends of LIPEX® SheaSoft TR™ and LIPEX® SheaLiquid TR™



The graph shows how you can obtain very different consistencies using LIPEX® SheaSoft TR™ and LIPEX® SheaLiquid TR™ at different ratios, which you can leverage to obtain your desired end formulation.

## Check out how solid & liquid shea can be combined to obtain very different formulations

- Elegant Eldeberry conditioning lip gloss
- La vie en rose lipstick



### AAK-23-005 Elegant Elderberry Conditioning Lip Gloss

| Product                                       | Manufacturer                 | INCI Name   | w/w   |
|---|------------------------------|---|-------|
| Phase A                                       |                              |   |       |
| LIPEX <sup>®</sup> SheaLiquid TR <sup>™</sup> | AAK Sweden                   | Butyrospermum Parkii Butter, Butyrospermum parkii (Shea) butter         | 72.70 |
| Elderberry Red Powder Color<br>Dispersible    | EPC Natural Products Co Ltd. | Sambucus Nigra Fruit Extract, Citric Acid,<br>Distarch Phosphate, Water | 0.50  |
| Phase B                                       |                              |   |       |
| Akofine R <sup>™</sup>                        | AAK Sweden                   | Hydrogenated Vegetable Oil  | 6.00  |
| LIPEX <sup>®</sup> SheaSoft TR <sup>™</sup>   | AAK Sweden                   | Butyrospermum Parkii Butter, Butyrospermum parkii (Shea) butter         | 20.00 |
| Phase C                                       |                              |   |       |
| Forest Fruit Lip 9718/21                      | Vioryl                       | Flavor  | 0.80  |

Based on fully traceable, climate-neutral shea emollients and a natural colorant derived from juicy elderberry fruits, this minimal 3-in-1 formulation delivers a hint of color, a hi-gloss finish, and rich moisturizing benefits, leaving lips looking luscious, smooth, and hydrated.



- LIPEX® SheaSoft TR™ Our climate-neutral, fully traceable semi-solid shea butter has a creamy texture, slow-melting profile, rapid crystallization, and proven moisturizing benefits. Here it strengthens the protective lipid barrier and gives a soft, creamy texture.
- LIPEX® SheaLiquid TR™ our climate-compensated fully traceable liquid butter is used as a solvent for the butters, to achieve the desired semi-fluid texture.
- Akofine R adds texture and helps stabilize the oil phase.



## La vie en Rose Creamy Matte Lipstick

#### This long-wear lipstick

- delivers a perfect matt finish
- and supreme comfort, thanks to the nourishing benefits of a duo of highly moisturizing shea-based emollients.
- It's the ideal solution to mastering a bold matt look while simultaneously keeping lips in beautiful mint condition!

Directions for use: apply the lipstick working outwards from the cupid's bow directly from the bullet or with a lip brush. For a super smooth finish, exfoliate the lips before application. And check out our complimentary lip scrub formulations for inspiration.



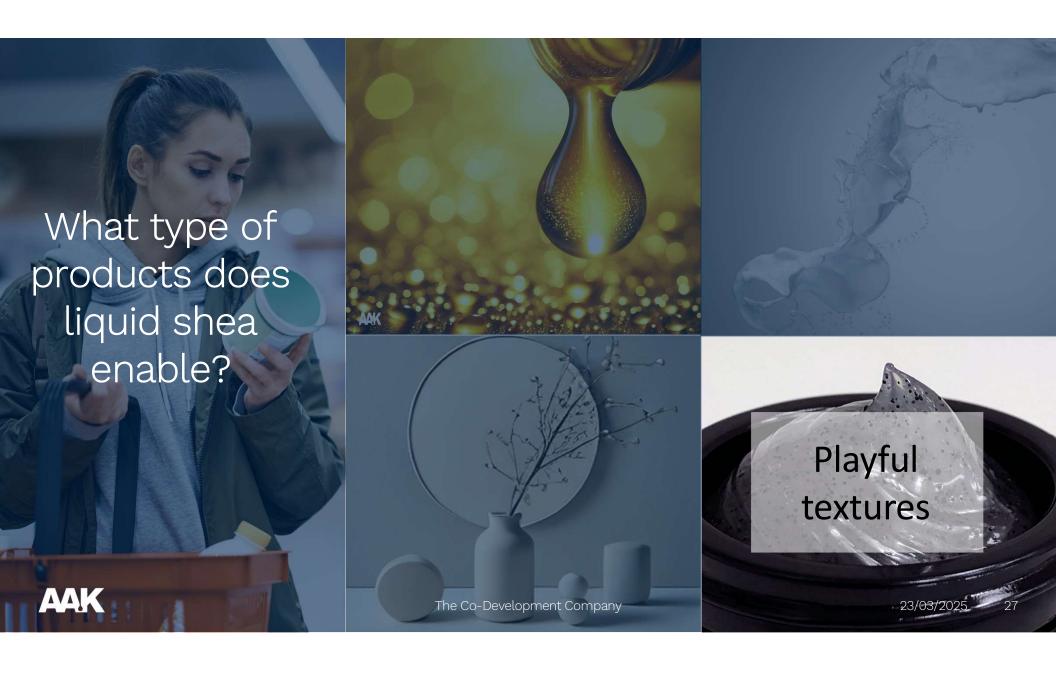


### AAK-23-007 La Vie En Rose Creamy Matte Lipstick

| Product  | Manufacturer                | INCI Name   | w/w   |
|--|-----------------------------|---|-------|
| Phase A  |                             |   |       |
| Akofine R <sup>™</sup>   | AAK Sweden                  | Hydrogenated Vegetable Oil  | 2.00  |
| LIPEX <sup>®</sup> SheaLiquid TR <sup>™</sup>                  | AAK Sweden                  | Butyrospermum Parkii Butter, Butyrospermum parkii (Shea) butter                         | 5.00  |
| LIPEX <sup>®</sup> SheaSoft TR <sup>™</sup>                    | AAK Sweden                  | Butyrospermum Parkii Butter, Butyrospermum parkii (Shea) butter                         | 44.00 |
| Akoline PGPR   | AAK Sweden                  | Polyglyceryl-3 Polyricinoleate  | 1.00  |
| NF White Beeswax   | Koster Keunen               | Cera Alba (Beeswax)   | 8.50  |
| Sunflower Wax  | Koster Keunen               | Helianthus Annuus (Sunflower) Seed Wax  | 5.50  |
| Phase B  |                             |   |       |
| Silica   | The Innovation Company      | Silica  | 8.50  |
| Phase C  |                             |   |       |
| Red 7 Dispersion in LIPEX <sup>®</sup> SheaSolve <sup>™</sup>  | AAK Sweden/Making Cosmetics | Shea Butter Ethyl Esters, CI 15850 (red no. 7 D&C lake), Hydrogenated Vegetable Oil     | 8.33  |
| Red 28 Dispersion in LIPEX <sup>®</sup> SheaSolve <sup>™</sup> | AAK Sweden/Making Cosmetics | Shea Butter Ethyl Esters, CI 45410 (red no. 28 D&C lake), Hydrogenated Vegetable Oil    | 8.33  |
| Yellow 5 Dispersion in LIPEX® SheaSolve™                       | AAK Sweden/Making Cosmetics | Shea Butter Ethyl Esters, CI 19140 (yellow no. 5 FD&C lake), Hydrogenated Vegetable Oil | 8.34  |
| Dermofeel Toco 70 non GMO                                      | Evonik                      | Tocopherol, Helianthus Annuus Oil   | 0.50  |

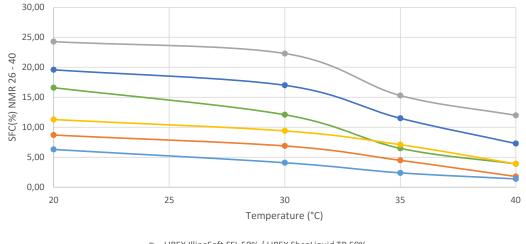
- LIPEX® SheaLiquid TR™ and LIPEX® SheaSoft TR™ Our two climate-neutral, fully traceable shea-based emollients help deliver the creamy texture, high stability and rich moisturizing benefits that help counteract the drying effect of the pigments and silica.
- LIPEX® SheaSolve™ Our eco-friendly shea-derived emollient ester provides optimal pigment dispersion and wetting, creating low viscosity and homogeneous dispersions. In the final formulation, Lipex SheaSolve helps deliver a more consistent color, a higher color payoff, and an overall lighter skin feel.





# And combining with AAK's soft technology range butters you can expand the playing field even further

Solid fat curves of different blends of LIPEX® SheaSoft TR, LIPEX® CocoaSoft RA MB, LIPEX® IllipeSoft FFL and LIPEX® SheaLiquid TR



- LIPEX IllipeSoft FFL 50% / LIPEX SheaLiquid TR 50%
- LIPEX CocoaSoft RA MB 50% / LIPEX SheaLiquid TR 50%
- --- LIPEX SheaSoft TR 50% / LIPEX SheaLiquid TR 50%
- LIPEX IllipeSoft FFL 25% / LIPEX SheaLiquid TR 75%
- LIPEX CocoaSoft RA MB 25/ LIPEX SheaLiquid TR 75%
- --- LIPEX SheaSoft TR 25% / LIPEX SheaLiquid TR 75%

The graph shows how combining solid and liquid butters you are able to obtain a broad range of textures and consistencies

Check out how solid butters & liquid shea can be combined to obtain very different formulations

- Squeeze me jelly lip balm
- Matte Shield Lip Balm Stick

Liquid shea enables the formulations of a broad range of products based on exotic plant-based butters that provide new storytelling opportunitties





### LIPEX<sup>®</sup> IllipeSoft FFL<sup>™</sup> as a key structuring agent

- The fast crystallization of LIPEX® IllipeSoft FFL™ generates a homogeneous network of small crystals that provides structure to the formulation and avoids bloom formation.
- In our Matte shield lip balm stick we have put LIPEX® IllipeSoft FFL™ to the test, by creating a minimalistic stick formulation where LIPEX® IllipeSoft FFL™ is the main structuring agent
- In more complex formulations, LIPEX® IllipeSoft FFL™ can be the perfect partner for your wax of choice to obtain sticks with the different hardness and payoffs check our Skin Longevity Foundation Stick for inspiration!

#### Matte Shield Lip Balm Stick

This wax-free, vegan formula is created with just three plant-based ingredients to provide instant comfort and hydration without shine. It acts as an invisible, weightless lip protector suitable for all ages and genders while also creating a smooth, matte base for lip color. Infused with a bioactive shea emollient, it strengthens the protective lipid barrier, helping to lock in moisture and shield against environmental stressors that cause dryness and cracking.

Natural Origin Index: 100%

| Product                      | Manufacturer | INCI NAME                           | % w/w |
|------------------------------|--------------|-------------------------------------|-------|
| Phase A                      |              |                                     |       |
| LIPEX® IllipeSoft FFL™       | AAK Sweden   | Shorea Stenoptera Seed Butter       | 74    |
| LIPEX® SheaLiquid TR™        | AAK Sweden   | Butyrospermum parkii Butter         | 25.5  |
| LIPEX <sup>®</sup> SheaTris™ | AAK Sweden   | Butyrospermum parkii Butter Extract | 0.5   |



### Squeeze Me Jelly Lip Balm

| Product               | Manufacturer | INCI NAME                     | % w/w |
|-----------------------|--------------|-------------------------------|-------|
| Phase A               |              |                               |       |
| LIPEX® IllipeSoft FFL | AAK Sweden   | Shorea Stenoptera Seed Butter | 30.0  |
| LIPEX® SheaLiquid TR  | AAK Sweden   | Butyrospermum parkii Butter   | 68.35 |
| Akofine R             | AAK Sweden   | Hydrogenated Vegetable Oil    | 1.15  |
| Phase B               |              |                               |       |
| PEACH 20302-C/31      | Vioryl       | Flavor                        | 0.5   |

- Using very similar ingredient than in AAK's Matte Shield lip balm stick, but changing the ratio, you can obtain an anhydrous formulation with a completely different consistency. Here LIPEX IllipeSoft FFL is responsible for the structure also but instead of a stick, a squeezable jelly balm, is obtained.
- easy-to-squeeze tube, this vegan-friendly lip balm is formulated with a trio of plant-based ingredients to hydrate, nourish, and soothe. But that's not all! Upon application, its gel-like texture melts effortlessly, leaving lips with a soft, healthy, and naturally enhanced sheen simple effectiveness at its best.

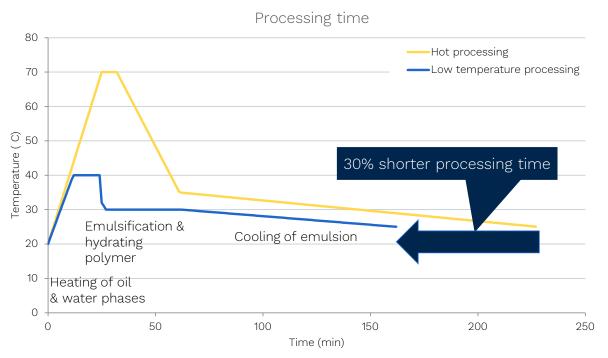
Natural Origin Index: 100%

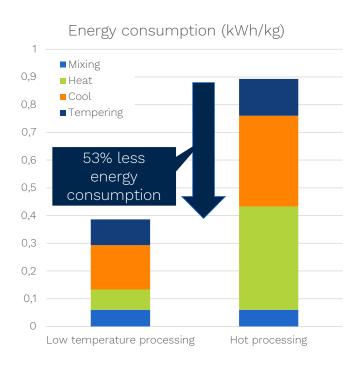




### Low temperature processing saves energy and time

Lab trial comparing hot processing of solid shea vs low temperature processing using liquid shea.

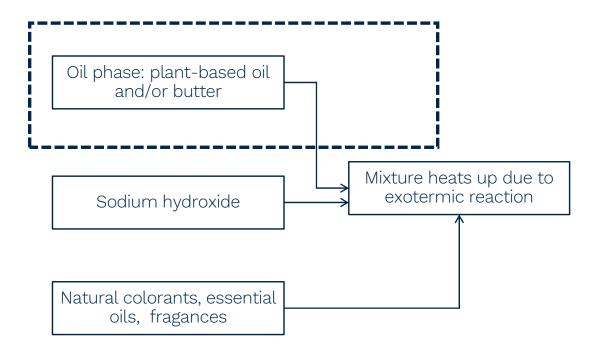




Recipee: 77.4% water, 1.1% preservative, 3.0% glycerin, 4.5% canola oil, 4.5 isopropyl palmitate, 6.0% butyrospermum parkii butter, 2.8% trilaureth-4 phosphate, 0.7% Aristoflex AVC. pH 5,5 For information on this test, check our document: Time and energy saving liquid shea



In soap production, a solid butter/oil can be the only ingredient that requires heating

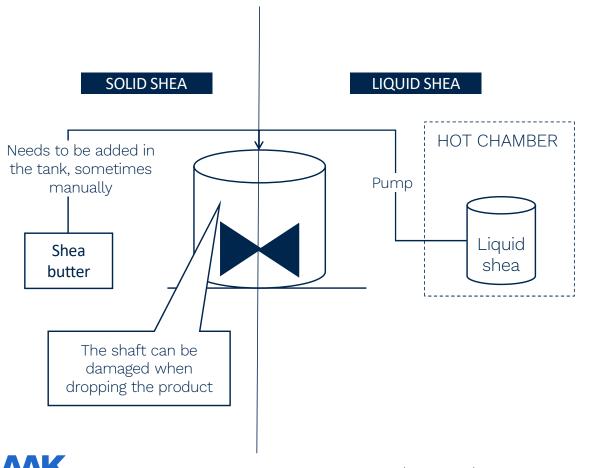








### Liquid shea can ease handling in production



## Liquid shea can enable, under certain circumstances, easier handling:

- Solid butters can't be pumped, and need to be added into the tank, sometimes manually.
- When added, they can damage the shaft.
- Liquid butters can be directly pumped after heating them in a hot chamber.





## The mentioned efficiencies can be achieved while maintaining a similar sensory in formulation

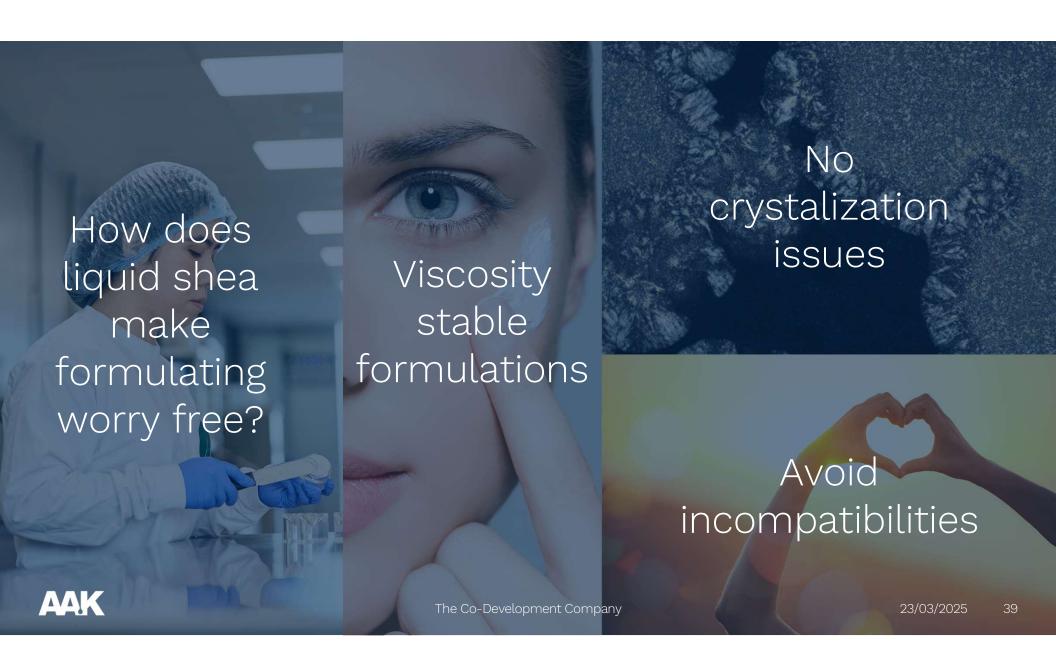
• We have validated that you can achieve a oil-in-water emulsion with a concentration up to 6%of shea butter / liquid shea butter without perceiving a significant difference

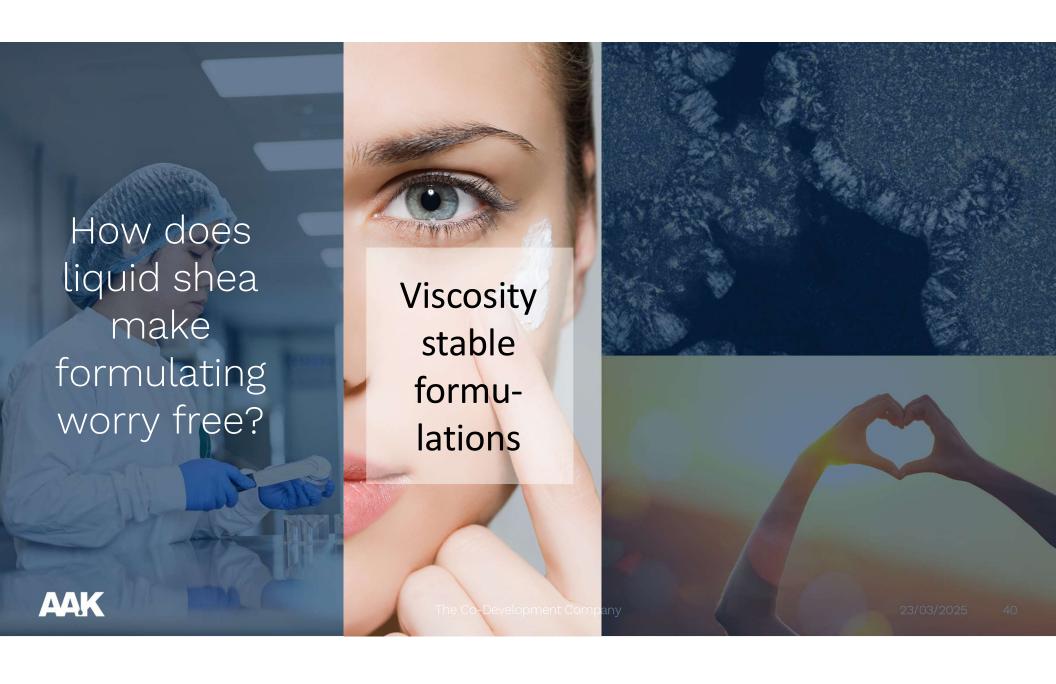
# 2 out of 3 can't tell the difference

- Results are supported by our Sensory Evaluation Challenge where participants must identify the odd one out of three body lotions.
- The only difference between them is the shea ingredient used: a refined solid shea butter or LIPEX® SheaLiquid TR™

Recipe: 77.4% water, 1.1% preservative, 3.0% glycerin, 4.5% canola oil, 4.5 isopropyl palmitate, 6.0% butyrospermum parkii butter, 2.8% trilaureth-4 phosphate, 0.7% Aristoflex AVC. pH 5,5



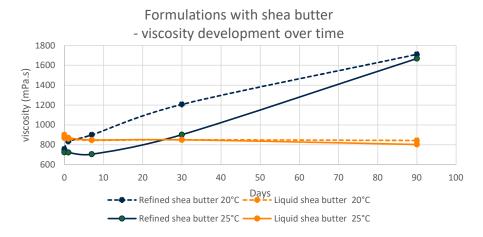




## Liquid shea enables the production of formulations with a stable viscosity over time

Considering viscosity in cosmetic formulations is key:

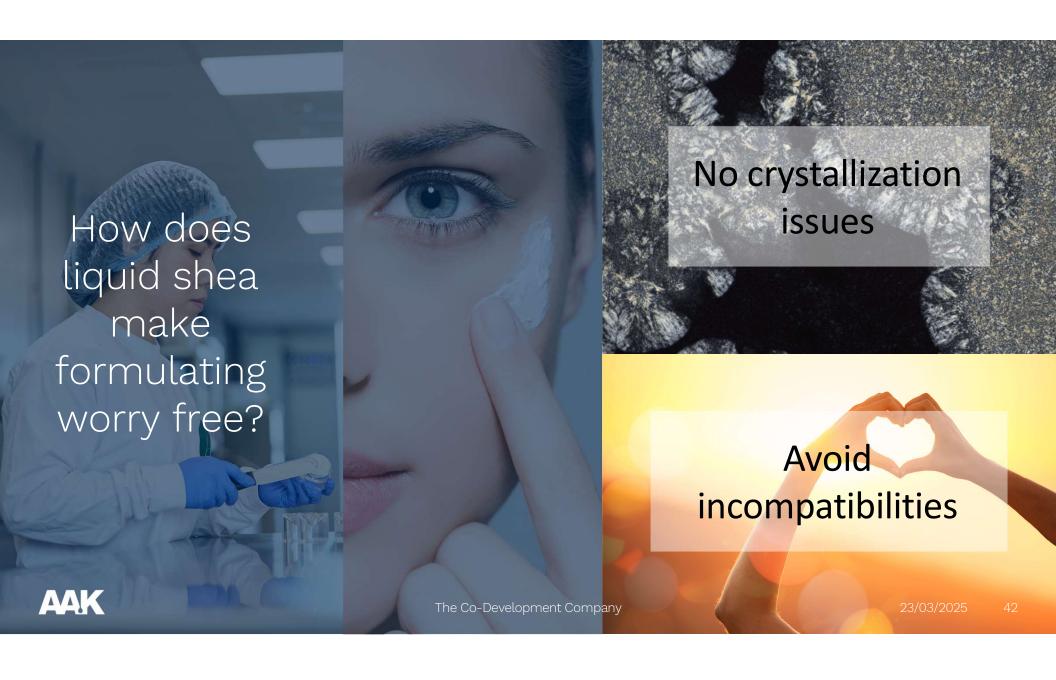
- Consistent Quality: A product that maintains its viscosity over time ensures that each use feels the same. This consistency is key to customer satisfaction and trust in the product.
- Long Shelf Life: Products that keep their viscosity are less likely to separate or degrade, making them last longer on store shelves and in consumers' homes.
- Packaging Compatibility: Consistent viscosity helps in choosing the right packaging. If a product changes thickness, it might not come out of its container properly.



Oil-in-water formulations with 14% different emollients used in the oil phase were stored at 20°C and 25°C for the period of 3 months. Viscosity & stability were observed at different times.

LIPEX® SheaLiquid TR™ showed constant viscosity in the formulation over time, while the viscosity of the formulation with refined shea butter increased continuously during the same period – but with a significantly different development at 20°C and 25°C, making it quite unpredictable.





#### Causes of Bloom in Shea Butter

#### Polymorphism

- Standard refined shea butter is primarily comprised of symmetrical triglycerides
- Symmetrical triglycerides are slow to nucleate new crystals, which can lead to fewer but larger crystals.
- They also reach the stable crystal form at a slower rate. Which makes standard refined shea butter highly sensitive to temperature fluctuations where unstable crystals will melt and recrystallize in bigger, stable, crystals leading to the formation of bloom

## 

triple

Fig. 1. Molecular properties of fat polymorphism.

double

#### Incompatibilities

- Triglycerides that are too dissimilar (different fatty acid chain lengths!) do not mix well in the solid state.
- Large chains don't want to integrate in the short chain crystal structure and vice versa
- Shea butter, is primarily composed of long chains (C16/C18). Formulating with short chains can lead to incompatibilities, especially when one of the fractions is not the dominant.

#### Short Chain (C12/C14)

Coconut oil
Palm kernel oil
Hydrogenated coconut oil
Murumuru butter
Babassu oil



## Liquid Shea can be Combined with Hydrogenated Coconut Oil without Incompatibility Issues!

- Blends of hydrogenated coconut butter and shea butter (standard or Lipex 205) were prepared at different ratios.
- Samples were exposed to alternating temperatures of 20°C and 30°C (12h cycles) for 4 weeks.
- Lipex 205 blends showed no incompatibilities at any ratio.
- Refined shea butter resulted in bloom at 40%-70/80% concentrations
- Additional photos can be found at the end of the presentation



Shea Butter used



Lipex 205 used



# Other formulations available in the library with liquid shea



### Formulations part of the formulation library 2025/2026

- Mallow Whip Curl Mousse (LIPEX® SheaLiquid TR™)
- Sleek and Wet Glam Gelée (LIPEX® SheaClear™)
- Future Perfect Eye Gel Cream (LIPEX® SheaLiquid TR™)



## Extra Shea Pictures



