

Formulating with Plant Butters in Skincare and Haircare

Plant butters are staples in natural cosmetic formulations. Shea butter, cocoa butter, mango butter, kokum butter, and many others contribute creaminess, viscosity, stability, and skin-softening properties. One important characteristic formulators must understand when working with butters is their melting point.

Melting points affect not only the performance of the butter itself but also the texture, stability, and viscosity of the final formulation. Ignoring melting points can result in unstable emulsions, grainy textures, or products that separate in warm or cold conditions.

What Is the Melting Point of Plant Butters?

The melting point is the temperature range at which a butter transitions from solid to liquid. Most plant butters don't have a sharp melting point but instead soften and melt gradually over a range of temperatures due to their complex fatty acid and triglyceride composition.

High melting point butters (like cocoa butter or kokum butter) are firm at room temperature, adding body and rigidity to formulations.

Medium melting point butters (like shea or mango) strike a balance, contributing creaminess and spreadability.

Low melting point butters (like cupuaçu or murumuru) are softer and more emollient, quickly melting into the skin or hair.

Why Cosmetic Formulators Must Consider Melting Points

Stability in Different Climates

Products shipped or stored in warmer regions may soften, leak, or destabilize if formulated with too many low-melting-point butters. Conversely, products stored in colder climates may become too hard or difficult to spread if high-melting-point butters dominate.

Control of Viscosity and Texture

Melting points influence the viscosity of creams, lotions, hair conditioners, balms and pomades. High-melting butters thicken emulsions and provide structure, while lower-melting butters enhance softness and glide. A balanced combination gives the desired consistency without compromising stability.

Product Performance on Skin and Hair

The way a butter melts on contact with skin or hair affects absorption, feel, and functionality. A softer butter creates immediate slip and emollience, while a harder butter offers longer-lasting occlusion.

Prevention of Graininess

Some butters, like shea, are prone to crystallization if not melted and cooled properly. Knowing their melting and crystallization behavior helps formulators avoid grainy textures in balms, body butters, hair conditioners and pomades.

Examples of Plant Butter Melting Points

Plant Butter	Approx. Melting Point (°C)	Characteristics in Formulation
Cocoa Butter	93.2–104°F / 34–38°C	Hard, brittle, adds firmness and stability
Kokum Butter	100.4–104°F / 38–40°C	Very firm, excellent for structure
Shea Butter	87.8–100.4°F / 31–38°C	Soft, creamy, prone to crystallization
Mango Butter	82.4–96.8°F / 28–36°C	Creamy, light, improves spreadability
Murumuru Butter	86–96.8°F / 30–36°C	Silky, melts quickly, adds slip
Cupuaçu Butter	86–95°F / 30–35°C	Soft, highly emollient, retains water
Illipe Butter	98.6–107.6°F / 37–42°C	Firm, smooth, long-lasting emollience

Note: Exact melting points vary slightly depending on source, processing, and storage.

Key Formulating Notes for Cosmetic Formulators

Understanding melting points is essential for designing stable, climate-resistant, and luxurious formulations. By carefully balancing butters with different melting ranges, formulators can:

- Achieve desired product consistency and viscosity
- Ensure stability during storage and shipping
- Enhance consumer experience with better texture and performance

In short: Melting points are not just numbers, they are a roadmap to creating stable, effective, and enjoyable hair and skincare products.