FORMULATOR'S GUIDE

Ceramides in Skincare

A practical guide to ingredient selection, evidence, and formulation

by Joan Morais



IN THIS GUIDE

Learn to identify ceramide types, choose commercial blends, and evaluate skin-barrier claims.

Ceramides: Different Ingredients, Different Functions

Ceramides are skin barrier lipids, not peptides. Their performance depends on lipid organization, delivery, and the complete moisturizer.

Why Formulators Choose Them

A ceramide system can support a barrier-focused moisturizer when paired with appropriate humectants, emollients, and complementary lipids.

How to Interpret the Evidence

Skin barrier biology is well established, but results from a finished moisturizer cannot automatically be attributed to a single ceramide ingredient. Compare controlled human studies, test methods, and exact commercial grades.

JOAN'S FORMULATION NOTE

When selecting ceramides, look beyond the ingredient name and supplier claims. Check the type and actual concentration of ceramides, their origin, recommended usage level, solubility, and processing requirements.

Ceramides work alongside other skin barrier lipids, particularly cholesterol and free fatty acids. For vegan formulations, choose a complete lipid system with documented non-animal origins, and evaluate its performance in the finished product rather than relying solely on raw-ingredient claims.

Understanding Complementary Lipids

Ceramides, cholesterol, and free fatty acids contribute different functions to skin barrier lipid organization. Their ratios, delivery system, and the complete emulsion influence finished-product performance.

Ceramides at a Glance

Use this chart to compare ingredient functions, formulation applications, vegan status, and how each ingredient is commonly produced. Confirm the exact commercial grade with your supplier.

Ingredient	Key contribution	Best formulation fits	Vegan status & origin
Ceramide NP	Skin-identical barrier lipid; useful in lipid replenishment	Barrier-supporting moisturizers, creams, and serums	Generally vegan. Commonly chemically synthesized or made using fermentation-derived materials.
Ceramide AP	Barrier lipid with a different molecular structure	Moisturizers, barrier serums	Generally vegan. Commonly produced through chemical synthesis using non-animal starting materials.
Ceramide EOP	Specialized acylceramide important to skin lipid architecture	Multi-ceramide barrier creams and serums	Generally vegan. Commonly chemically synthesized; verify fatty acid origins.
Ceramide NS / AS	Additional ceramide subclasses; grade-specific	Ceramide-rich barrier creams.	Generally vegan in modern synthetic grades. Verify the commercial source.
Phytosphingosine	Ceramide-related sphingoid base, not itself a ceramide	Barrier-supporting emulsions, serums, lotions, and creams.	Generally vegan. Commonly produced through microbial fermentation.
Cholesterol + free fatty acids	Complementary barrier lipids, not ceramides	Barrier-supporting serums, lotions, and creams	Depends on source. Cholesterol is often animal-derived; vegan grades exist. Free fatty acids are commonly plant-derived or synthetic.

Which Should You Choose?

- For a daily moisturizer: consider Ceramide NP or a documented multi-ceramide blend.
- For barrier-focused creams: evaluate ceramides with cholesterol and fatty acids.
- For a simple serum: choose a pre-dispersed grade with compatible processing.

Vegan Formulation Note

Most modern cosmetic ceramides are generally vegan; ceramides can be synthetic or fermentation-derived. The INCI name alone does not establish vegan status. Confirm all carriers and supporting lipids in the commercial blend. Pay particular attention to cholesterol, which is often animal-derived.

Formulator's Decision Guide

Use this checklist before selecting a ceramide ingredient for your formula.

☐ Define the product goal and measurable performance claim.

☐ Confirm exact INCI, supplier identity, active concentration, carrier, and vegan status.

☐ Read supplier use level, pH, solubility, heat tolerance, and phase instructions.

☐ Review human evidence, controls, sample size, duration, and conflicts of interest.

☐ Test against a control formula without the specialty ingredient.

☐ Complete stability, preservation, packaging, and safety testing.

Key Points

Choose ceramides for a defined barrier-lipid objective and evaluate the finished moisturizer rather than relying on the label.

LEARN MORE

Read the full Ceramides in Skincare article in the three-part educational series and explore professional cosmetic formulation training at www.JoanMorais.com.

Ready to formulate your own peptide cream and ceramide serum?

Learn to create these tried-and-tested skincare formulations including a Peptide Cream and Ceramide Serum in the Professional Natural Skin Care Formulation Course. Discover how to work with cosmetic actives and develop effective skincare products with confidence

Educational reference by Joan Morais. Verify supplier documentation, product safety, stability, preservative efficacy, and claims before commercialization.