High-Performance, Sustainable Alternative to Microplastic Powders

Replaces microplastic powders while maintaining or improving texture, payoff, and application

USE LESS. PERFORM BETTER. REPLACE MICROPLASTICS.

Spherical Particles | 5–10 µm Particle Size
INCI: 3-Hydroxybutyrate/3-Hydroxyhexanoate Copolymer

PRESSED POWDERS: PROVEN NYLON-12 REPLACEMENT WITH SUPERIOR PERFORMANCE

Direct replacement of Nylon-12 at 10% delivers equivalent or improved performance

Effective at reduced levels (~6%) for equivalent performance, driven by optimized texture, payoff, and application

Enables pressing at significantly higher pressures, up to 600 psi, without affecting payoff or causing brittleness

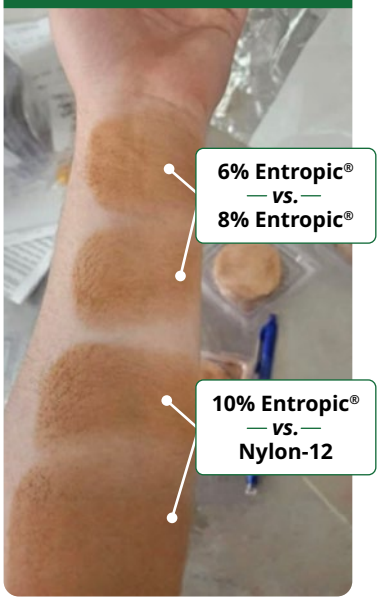
SUSTAINABLE BY DESIGN

- Upcycled, Sustainably-Sourced, and Bio-Based
- 100% Natural Origin (INO = 1 by ISO 16128)
- Biodegradable (OECD 301B)
- Renewable Origin
- Clean Label Positioning
- Low Environmental Impact
- Microplastic-Exempt (EU/ECHA) • EU 1223/2009 compliant

SAFETY & CLINICAL VALIDATION

- **Non-Nano**
  Not classified as namomaterial under EU criteria
- **Clinically Tested (RIPT)**
  No irritation or sensitization observed
- **Dermatologist Tested**
  Suitable for sensitive-skin formulations
- **Microplastic-Exempt**
  Not classified as a nanomaterial under EU criteria

PAYOFF TEST:
Sponge Application (600 psi)



CORE BENEFITS

MICROPLASTIC REPLACEMENT
Biodegradable and Microplastic-Exempt.

ENHANCED PAYOFF & PERFORMANCE
More color impact. Better efficiency.

SOFT-FOCUS MATTE AESTHETIC
Blurs imperfections. Refined skin Look.

SMOOTH, CREAMY APPLICATION
Silky glide. Velvety afterfeel.

FORMULATION VERSATILITY
Versatile across most powder formats.

PROVEN ACROSS MULTIPLE FORMATS

LIP & CHEEK STICK
Comparable to Nylon-12 and PMMA at typical use levels; enables near 1:1 replacement with minor formulation adjustments

PRESSED POWDER
Replaces microplastic powders with equivalent or improved performance at lower loadings; enables pressing up to 600 psi

LOOSE POWDER
Comparable skin adhesion, sheen, and texture; interchangeable with Nylon-12 and PMMA systems

Interfacial, Nagase Group | N4660 1165th Street | Prescott, WI 54021 | IFLLC.com

INTERFACIAL NAGASE Group

Lip & Cheek Stick: Sustainable Luxury Sensory Performance

- Biodegradable, bio-based, natural-origin alternative to traditional microplastic powders
- Comparable to Nylon-12 and PMMA at typical use levels
- Improves slip, glide, payoff, texture, and application
- Enables near 1:1 replacement with minor formulation adjustments
- Provides a powdery, creamy softness and more matte finish
- Demonstrated compatibility at loadings up to 40% with no processing issues

ARM SWATCHES

In each sample, the left swipe is with **40% Entropic®** lipstick and the right is the **original formulation** with no Entropic®. **40% Entropic®** shows greater opacity, a powdery, creamy softness, and a more matte finish.

1) First swipe from each lipstick bullet.
2) One swipe from each lipstick, not the first swipe.
3) Three swipes from each lipstick.
4) Lipstick applied in a circular application instead of a straight line.

LIP & CHEEK STICK

- Sustainable luxury sensory performance
- Comparable to Nylon-12 and PMMA at typical use levels
- Improved slip, glide, payoff, texture, and application
- Scalable to higher loadings for texture, finish, and sustainability positioning

PRESSED POWDER

- Equivalent performance to Nylon-12 and PMMA at lower Entropic® loadings
- Improved payoff, texture, and application at equivalent loadings
- Pressable up to 600 psi without significant impact on payoff
- Maintains compact integrity and passes drop-test evaluation

LOOSE POWDER

- Comparable skin adhesion, sheen, finish, and texture in evaluated setting powder formulation
- Demonstrated interchangeability with Nylon-12 and PMMA
- Supports microplastic powder replacement with minimal formulation adjustment

PREDICTABLE REPLACEMENT WITH MINIMAL REFORMULATION

FORMULATION VERSATILITY

EASY INCORPORATION ACROSS COLOR COSMETIC FORMATS

- Compatible with common cosmetic oils and anhydrous systems
- Easy incorporation using standard cosmetic processing
- Works in hot pour, loose powder, pressed powder, and hybrid color formats
- Supports near 1:1 replacement of Nylon-12 and PMMA in validated systems, enabling faster reformulation away from microplastic powders

PRESSED POWDERS

LOOSE POWDERS

LIP, CHEEK & MULTI-STICKS

HOT POUR COLOR FORMATS

Upgrade performance while eliminating microplastics

We're seeking partners to test and qualify Entropic® Biodegradable Microspheres in color cosmetic and hybrid beauty formulations.

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SCAN TO REQUEST SAMPLES OR FORMULATION SUPPORT

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