

**TABLE  
OF CONTENTS**

**THE INGREDIENTS**

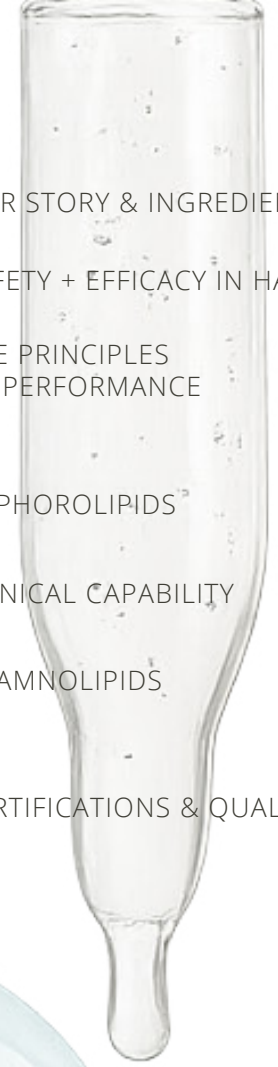
- 04 - 05. OUR STORY & INGREDIENTS
- 06 - 07. SAFETY + EFFICACY IN HARMONY
- 08. THE PRINCIPLES  
OF PERFORMANCE

**THE DATA**

- 09. SOPHOROLIPIDS
- 10 - 11. CLINICAL CAPABILITY
- 12 - 13. RHAMNOLIPIDS

**CLEAN BEAUTY**

- 14 - 15. CERTIFICATIONS & QUALITY



From advanced strain engineering to precision fermentation, every step of our process is purpose-built to deliver high-performance, gentle surfactants, emulsifiers, and solubilizers—formulated exclusively for beauty and personal care.

# BioReNuva<sup>®</sup>

## OUR STORY

BioReNuva, founded in 2022 in Austin, Texas, is driven to find the “holy grail” of beauty ingredients that delivers modern synthetic performance with pure, safe nature. Our team obsessively pursues personal care products that are effective yet gentle.

We believe biotechnology is the key to bridging this divide. Rather than relying on harsh chemical processes, we harness the power of fermentation, a process as old as human civilization itself. Through our engineering process, we design biosurfactants that are 100% naturally produced, deliver on function and clinical benefits, are light in color & odor, and provide multi-functionality in formulation.

We invite you to join us on this journey toward a cleaner, more effective future in beauty, where science and nature come together in perfect harmony. After all, at BioReNuva, we believe the holy grail of ingredients isn't just a myth—it's our reality.

# BIOTECHNOLOGY INGREDIENTS

*Our BioSurfactants are Engineered Exclusively for Beauty & Personal Care*

## SOPHOROLIPIDS

### ReNuva™ SL-A70

**INCI: GLYCOLIPIDS**

Developed Naturally via Biotechnology  
ISO 16128 NOI = 1, (100% Natural)  
Excellent Cleanser & Solubilizer  
Unrivaled Mildness  
Anti-Inflammatory Properties  
Moisturization & Sebum Control Benefits  
Acne, Dandruff and Preservation Control  
CMC 20-300x Lower Than Standard Amphiphiles  
Medium Height & Creamy Foamer

### ReNuva™ SL-L70

**INCI: GLYCOLIPIDS**

Developed Naturally via Biotechnology  
ISO 16128 NOI = 1, (100% Natural)  
Excellent Cleanser & Emulsifier  
Low Foamer with Unrivaled Mildness  
Anti-Inflammatory Properties  
Moisturization & Sebum Control Benefits  
Bactericide Preservation Boosting Capabilities  
Acne & Dandruff Control  
CMC 20-300x Lower Than Standard Amphiphiles

## RHAMNOLIPIDS

### ReNuva™ RL-50

**INCI: GLYCOLIPIDS**

Developed Naturally via Biotechnology  
ISO 16128 NOI = 1, (100% Natural)  
Excellent Cleanser & Solubilizer  
Tall Height & Creamy Foamer, Unrivaled Mildness  
Biofilm Disruptor  
Lightest Color and Odor Rhamnolipid on Market  
CMC 20-300x Lower Than Standard Amphiphiles



### ReNuva™ Ready

**INCI: BLEND (CONTACT US)**

Blends Biosurfactants & Bio-Based Surfactants  
ISO 16128 NOI = 0.87, (87% Natural)  
Ideal For Shampoos & Body Washes  
Tall, Dense, and Creamy Foam  
Synergistic with Various Thickeners  
Exceptionally Mild  
Color-Fade Protection

**1**

## Unparalleled Safety

---

YEAST, SUGAR and VEG. OIL ONLY

---

**\*HRIPT** 0 (No Skin Reaction)

**\*\*Extended** 72% Reduction (vs SLS)

**\*\*Bio-Ocular** 48/50 (ET 50)

\* Eurofins: 50% Raw, 50+ Clinical Subjects  
 \*\*14 Day Cumulative Skin Irritation  
 \*\*\*OECD 492B

**2**

## Moisture & Sebum Benefits

---

SUGAR BASED + LOW CMC

---

**\*Corneometer®** 58% Boost (ReNuva SL-A70)  
 26% Boost (ReNuva RL-50)

**\*\*TEWL** 83.33% Boost (IMMED.)  
 41.67% Boost (24hr.)

**\*Sebumeter®** 14% Reduction (ReNuva SL-A70)

\* Hand wash (10% ReNuva™ SL-A70, 5% ReNuva™ RL-50)  
 \*\*Body Lotion (5% ReNuva™ SL-A70)

**3**

## Anti-Inflammatory Properties

---

BIOFERMENTATION

---

**TNF-α** 32% Reduction\*  
 55% Reduction\*\*

**COX-2** 37% Reduction\*

**IL-6** 60% Reduction\*  
 42% Reduction\*\*

**NO** 58% Reduction\*\*

\* 2.50% ReNuva™ SL-A70  
 \*\*2.00% ReNuva™ SL-L70

**4**

## Preservation Boosting

---

ANTI-MICROBIAL LACTONES

---

**\*USP-51** ReNuva™ SL-A70 (Pass, Bacteriostatic)  
 ReNuva™ SL-L70 (Pass, Bactericide)

**\*\*Dip-Slides** ReNuva™ SL-A70 (Pass)  
 ReNuva™ SL-A70 (Pass)

\* 10% Glycolipids  
 \*\*5% Glycolipids

## 1. UNPARALLELED SKIN SAFETY

Our motto is “What We Put In Is What We Get Out.”  
 Sugar, vegetable oil, and wild-type yeast are our only inputs. As the sole biosurfactant producer for beauty care, we prioritize safety and purity. With these clean inputs, we uphold our mission for maximum efficacy. Whether on skin, eyes, or hair, our Glycolipids set the standard for mild, safe formulations that meet the most sensitive skin care demands.

---

## 2. SKIN MOISTURIZATION & SEBUM CONTROL

Derived from sugar-based molecules, we naturally leverage sugar’s humectant qualities to draw in and retain moisture, helping support optimal skin hydration. Their inherently low CMC also enables superior oil de-agglomeration, effectively dispersing excess sebum to promote a balanced, clearer complexion.

---

## 3. ANTI-INFLAMMATORY PROPERTIES

Our fermented sophorolipids demonstrate remarkable anti-inflammatory capabilities, outperforming conventional triglycerides by significantly reducing pro-inflammatory cytokines. This highlights the power of biofermentation, enabling gentler, targeted action that delivers potent benefits while maintaining superior skin compatibility.

---

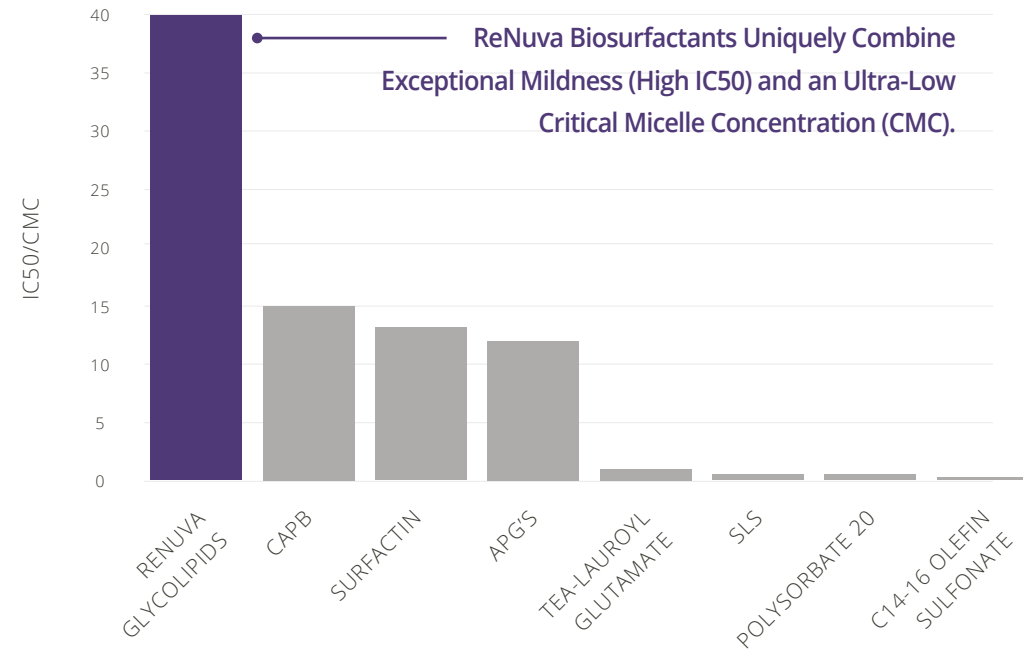
## 4. PRESERVATION BOOSTING

We exhibit robust, broad-spectrum preservation-boosting capabilities in both dip slide evaluations and USP 51 studies, effectively inhibiting a wide range of microbes. This synergy empowers cosmetic formulators to strengthen their preservation systems without solely relying on harsh or excessive preservatives, ensuring safer, more stable products.

# FUNCTIONAL PERFORMANCE

AN IDEAL CHOICE FOR A WIDE RANGE OF BEAUTY CARE FORMULATIONS

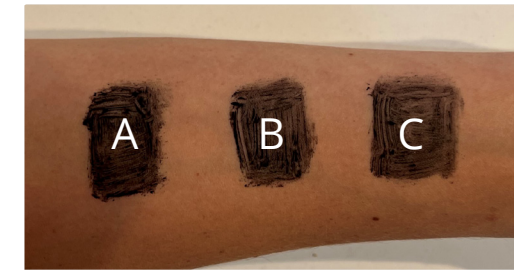
Glycolipids, have a best-in-class low critical micelle concentration (CMC) and are produced via a fully biological process resulting in extremely mild properties, offer superior benefits in cleansing, emulsification, and solubility applications where performance and safety matter most.



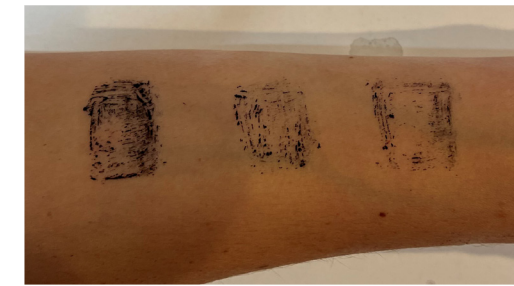
## Critical Micelle Concentration, CMC (mg/L) of Various Amphiphiles

|                        |               |
|------------------------|---------------|
| ReNuva Rhamnolipids    | 2 - 20        |
| ReNuva Sophorolipids   | 10 - 30       |
| CAPB (Betaine)         | 200 - 250     |
| SLS                    | 300 - 500     |
| APG (Alkyl Glucosides) | 800 - 1000    |
| LCS (Amino Acid)       | 2,000 - 3,000 |

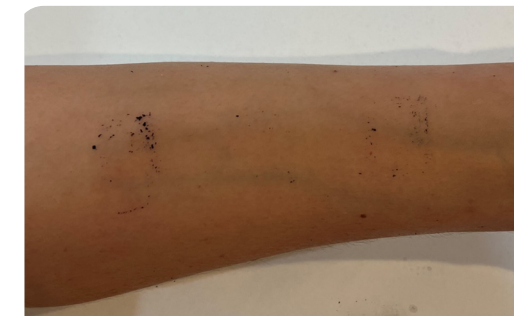
## CLEANSING



INITIAL



FIRST SET OF WIPES



FINAL SET OF WIPES

1

### 1. CLEANSING

(1) L'ORÉAL WATERPROOF MASCARA APPLIED TO SKIN AND ALLOWED 15 MINUTES TO DRY.

(2) COTTON PADS WERE DIPPED AND ALLOWED TO SOAK UP 5 GRAMS OF MATERIAL A, B, C.

- A. COMMERCIAL MAKE-UP REMOVER
- B. COMMERCIAL MAKE-UP REMOVER + 10% RENUVA LIPIDS
- C. 10% RENUVA LIPIDS + 90% H<sub>2</sub>O

## SOLUBILITY



2

## EMULSIFICATION



3

### 2. SOLUBILITY

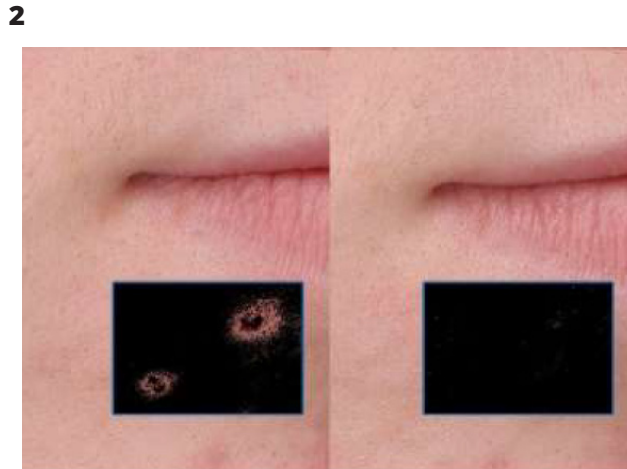
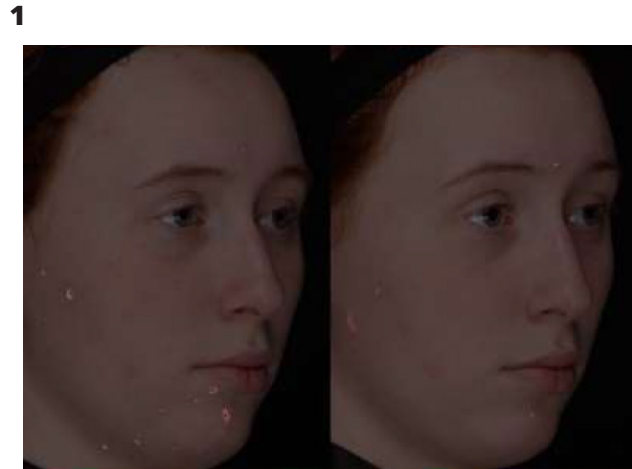
SOLUBILIZES A WIDE RANGE OF ESSENTIAL OILS, FRAGRANCES, AND ACTIVES COMPARABLY TO HCO-40 AND POLYSORBATE-20.

### 3. EMULSIFICATION

EFFECTIVELY REDUCE SURFACE TENSION BETWEEN IMMISCIBLE LIQUIDS, FACILITATING STABILITY IN A WIDE RANGE OF EMULSIONS,

## ACNE PROTECTION

Sophorolipids in their lactone form exhibit especially potent antibacterial properties against *Cutibacterium acnes*, the primary culprit behind acne. This specialized ring structure enhances their ability to target and inhibit *C. acnes* proliferation, promoting a cleaner complexion without disrupting the skin's natural balance while reducing redness and inflammation.



### STUDY OUTLINE

We convened a pilot panel to assess the potential efficacy of a wash-off product containing 10% ReNuva SL-L70 + 90% Water, designed to improve skin condition and appearance as evaluated through photographic analysis. Participants completed a two-week washout phase—discontinuing all acne treatments—followed by four weeks of product use, with assessments at Baseline and Week 4.

### STUDY RESULTS

Photographic analysis revealed that after four weeks of product use, two selected lesions shrank by 99.93% and 99.88%. Additionally, subjects demonstrated an overall reduction of 63.22%.

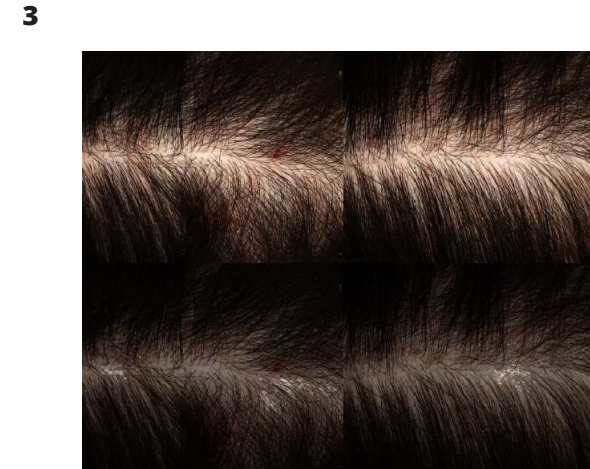
Meanwhile, MIC testing against *C. acnes* showed effective concentrations at 0.5% for ReNuva SL-A70 and 0.05% for ReNuva SL-L70.

**Minimum Inhibitory Concentration (MIC)  
C. acnes Bacteria**

ReNuva™ SL-A70: 0.50% MIC  
ReNuva™ SL-L70: 0.05% MIC

## DANDRUFF PROTECTION

Sophorolipids effectively combat dandruff by targeting *Malassezia*, the primary fungus responsible for scalp flaking and irritation. Their broad-spectrum antimicrobial properties help maintain a healthier scalp environment, reducing dryness, itchiness, and visible flakes without the harshness often associated with conventional antifungal agents.



### STUDY OUTLINE

In a three-week trial of BioReNuva Leave-On Hair Spray containing 10% ReNuva SL-L70 + 90% Water we examined the anti-microbial properties of Sophorolipids to eradicate *Malassezia* fungus. A panel of 8 subjects completed the study and no adverse events were observed. Expert Grading was conducted via clinical photography to evaluate for scalp flaking at baseline and following 3 weeks of treatment.

### STUDY RESULTS

Eight participants showed statistically significant reductions in scalp flaking, with no adverse events reported. Expert Grading confirmed these improvements, indicating both the safety and efficacy of the formulation in promoting scalp health. Seven of eight, or 83.33%, of subjects saw an improvement with an average of 33.11% reduction in flakes from baseline. Further MIC information is detailed below:

**Minimum Inhibitory Concentration (MIC)  
Malassezia Fungus**

ReNuva™ SL-A70: 0.75% MIC  
ReNuva™ SL-L70: 0.50% MIC

NEW LAUNCH

# ReNuva™ RL-50

## 1. CREATES ROBUST FOAM

ReNuva™ RL-50 has a naturally low CMC and strong interfacial activity pack bubbles tightly, creating a velvety, dense microfoam that rises tall and often outlasts benchmark synthetics like SLES—while delivering average bubble sizes 23% smaller than SLES and 40% smaller than CAPB.

## 2. FOAMS HIGH

RL-50 consistently matches—or exceeds—the “gold-standard” SLES on both initial and sustained foam height in neutral-pH cleansing systems. Tight bubble packing resists collapse over time. In bench-top Ross-Miles and shake-flask tests, the RL-50 foam column stays visibly higher and more stable through the full observation window, retaining its structure - delivering superior sensorial richness without the irritation profile often associated with chemical surfactants.

## 3. CLEANSSES

At 2% in formula, ReNuva™ RL-50 lifts ~93% of intense red lipstick in just ten rubs, out-cleaning other common surfactants and solubilizers. It's naturally derived rhamnolipid structure keeps skin barrier-friendly and exceptionally mild.

## 4. SOLUBILIZES

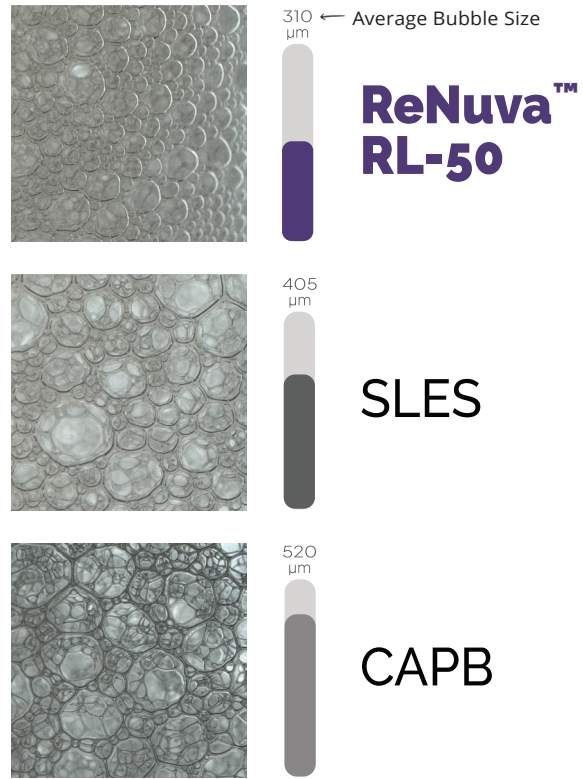
Thanks to its ultra-low CMC and balanced hydrophilic-lipophilic profile, RL-50 efficiently solubilizes a wide range of essential oils, fragrances, and oil-soluble actives—often achieving clear, stable systems at room temperature without extra co-solvents. This simplifies formulation and boosts loading capacity, especially in sulfate-free, neutral-pH products.

## 5. SAFE SURFACTANT

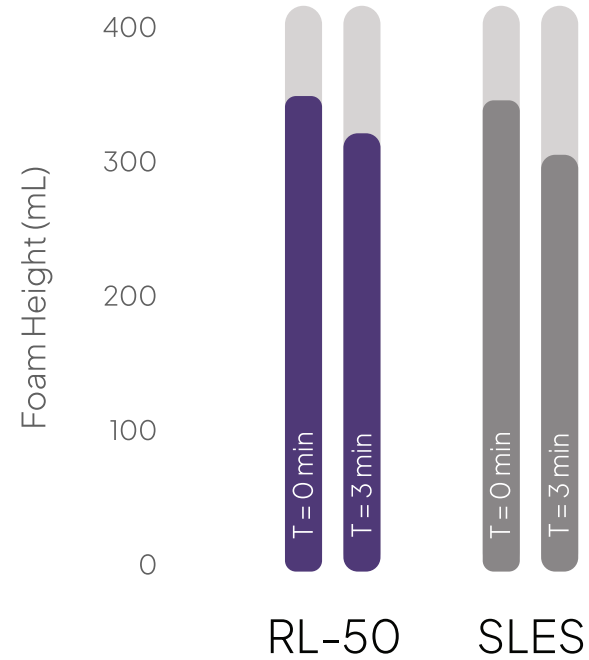
Fermented from sugar + vegetable oil, RL-50 is sulfate- and solvent-free. HRIPT plus oral and ocular assays rate it non-irritant, so it cleans effectively while staying exceptionally mild.

## 6. CLEAN & SUSTAINABLE

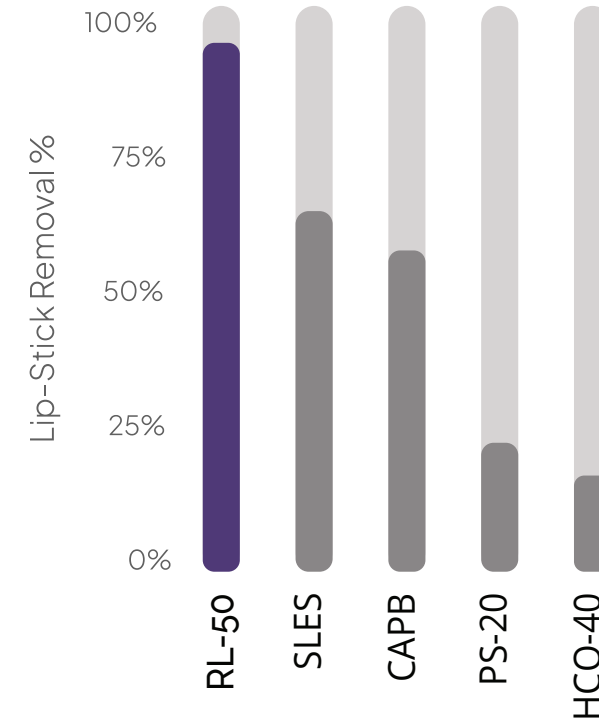
RL-50 is 100 % bio-derived from renewable sugar and plant oil, fully biodegradable, palm-free, and sulfate-free—delivering high performance with a minimal carbon footprint for true clean-beauty formulations.



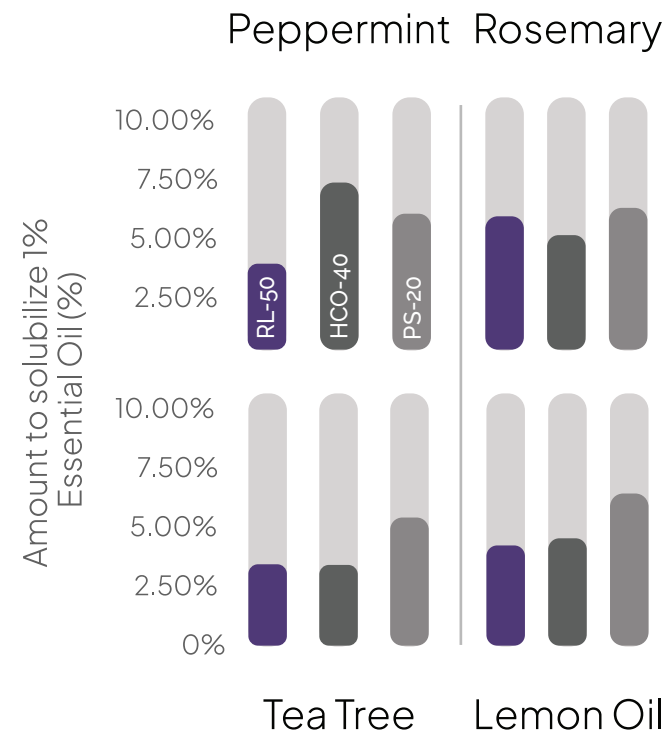
1. FOAMING QUALITY



2. FOAMING HEIGHT



3. CLEANSING



4. SOLUBILITY



5. SAFETY FIRST



6. GOOD FOR CONSUMERS, GOOD FOR THE PLANET

## CLEAN BEAUTY CERTIFIED...



## ...AND STORE APPROVED

SEPHORA



DOUGLAS

FEELUNIQUE



## QUALITY IS OUR BRAND

*Quality is at the core of everything we do—we design exclusively for the beauty care formulator, understanding the high bar they face when working with natural or biotech ingredients. That's why our materials are crafted to deliver exceptional performance without the typical challenges of color, odor, or formulation instability.*



SOPHOROLIPIDS

RHAMNOLIPIDS

SETTING THE STANDARD FOR COLOR, ODOR AND PRODUCT STABILITY FOR BIOSURFACTANTS