



































Next-Generation Biosurfactants
for High-Performance, Sustainable
Industrial Solutions



Formulating the Future

Amphi® M	NEW! Amphi® CL	NEW! Amphi® CH
<ul style="list-style-type: none"> • Low HLB • Low/no foam • Hydrophobic • Excellent degreaser • TSCA-certified 	<ul style="list-style-type: none"> • Low HLB • Low/no foam • Hydrophobic • Excellent emulsifier • TSCA-pending 	<ul style="list-style-type: none"> • High HLB • Medium foaming • Hydrophilic • Excellent detergent • TSCA-pending

Applications

Coatings, Adhesives, Sealants & Elastomers	 Dispersant	 Wetting	 Emulsifier	 Coalescing Agent
Industrial & Institutional	 Wetting	 Solubility	 Emulsification	 Dispersion
Metalworking Fluids	 Emulsifier	 Wetting	 Ester Solvent	 Broad pH use Range
Water Treatment Solutions	 Emulsifier	 Inverter	 Solubilizer	 Biobased
Pulp & Paper	 Wetting	 Emulsifier	 Dispersant	 Biobased
Textile & Leather	 Wetting	 Emulsifier	 Dispersant	 Cleansing
Other Industrial	 Wetting	 Emulsifier	 Dispersant	 Multifunctional
Agricultural Adjuvants	 Wetting	 Emulsifier	 Dispersant	 Versatile

Innovation in Industrial Applications

What are biosurfactants?

Biosurfactants are a category of biobased surfactants. These organic molecules lower surface tension between liquids to improve water movement. They provide unparalleled health, safety and environmental effects.

Amphi® ingredients are fermentation-produced and utilize the unique properties of sophorolipids (SLP)—a type of biosurfactant in the glycolipid class. They are USDA certified as 100% biobased and made from renewable raw materials with a low carbon footprint.

Sophorolipids are not just biosurfactants—they are versatile, multifunctional, sustainable ingredients with multiple properties and areas of application.

What are their benefits?

- ✓ **No Prop 65 issues & no 1,4-dioxane**
- ✓ **Palm oil free & non-GMO**
- ✓ **USDA Certified 100% biobased & readily biodegradable**
- ✓ **Low carbon footprint**

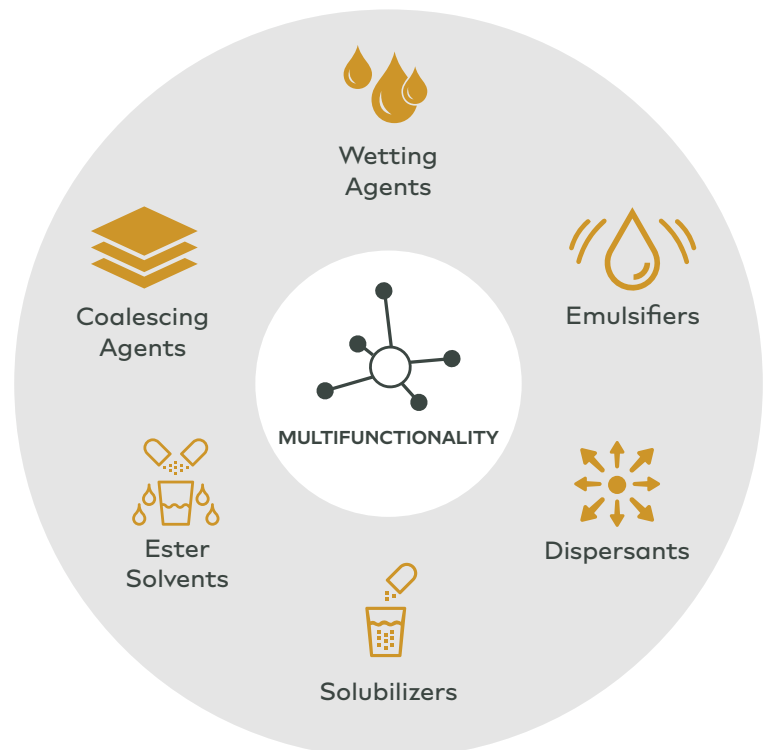
Why haven't they been used?

Costly production methods with limited volume capacities restricted the use of biosurfactants across industrial applications, until Locus Ingredients developed an innovative fermentation process that solved these challenges.

Using unique, modular production, Locus Ingredients can optimize the creation of high-performance biosurfactant ingredients at significantly lower costs.

Attributes

- ✓ **Wide HLB 6–12**
- ✓ **Surface tension reduction**
- ✓ **Low CMC**
- ✓ **Small micelle size**
- ✓ **Non-ionic and anionic character**



Replacement Opportunities

	Amphi® M	Amphi® CL	Amphi® CH	Key	
Sorbitan Esters	●●	●●	⊗	⊗	Not Applicable
Fatty Acid Esters	●●	●●	⊗	●	OK
Glycerol Esters	●	●	⊗	●●	Performs
Sucrose Esters	⊗	⊗	●	●●●	Outperforms
Long Chain APG	●●	●	●●●		
Short Chain APG	●●	●	●●●		
Low Mol Alcohol Ethoxylates	●●●	●●	●		
High Mol Alcohol Ethoxylates	⊗	⊗	●●●		
SLS	●●●	●●●	●●●		
SLES	●●●	●●●	●●●		
NPE/APE	●●●	●●●	●●●		
Sarcosinates, Taurates, Glutamates	●●●	●	●●●		
Alkanolamides	●●●	●●●	●●●		
Betaines	●●●	●●●	●●●		

Specifications

Effective Date: January 9, 2023

Parameter	Test	Amphi® M	Amphi® CL	Amphi® CH
Appearance	QC 017	Translucent to clear, amber liquid	Translucent to clear, amber liquid	Translucent to clear, amber liquid
Odor	QC 016	Odorless to slight acidic or sweet smell	Odorless to slight acidic or sweet smell	Odorless to slight acidic or sweet smell
Total sophorolipid content (wt%)	QC 023	≥50	≥50	≥50
Residual oleochemicals (wt%)	AC 002	≤5	≤5	≤5
pH at 0.1% in DI water	QC 005	4.0-5.5	4.0-5.0	4.5-5.5

Find Your Perfect Formulation Today

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