LOCUS Ingredients

amphi®

"Performance-Driven, Sustainable Solutions"

Amphi® Sophorolipids

High-activity, multifunctional biosurfactants for use in industrial applications.

Class Sophorolipids | **TSCA Certified***

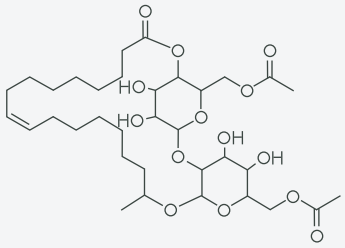
NATURAL
Vegan, non-GMO and USDA certified as 100% biobased

SUSTAINABLE
Readily biodegradable with industry-low toxicity

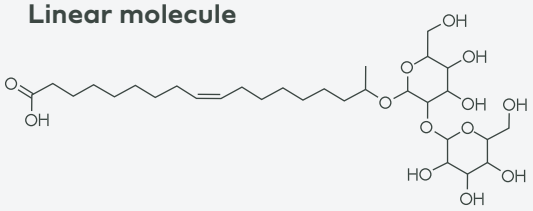
GENTLE
Safe and mild at level without sacrificing performance

MULTIFUNCTIONAL
Non-ionic and anionic uses, can act as primary or secondary surfactants

Lactonic molecule



Linear molecule



UNMATCHED
in **Performance** and **Sustainability**

- High activity levels
- Replace petrochemical surfactants
- Higher efficacy
- Lower usage rates
- Less water used in manufacturing
- Low carbon footprint

FREE from

- Palm oil
- 1, 4-Dioxane
- Ethylene oxide
- Formaldehyde
- Proposition 65 chemicals

PLUS... Enables low VOC formulations

*Amphi® CL & CH TSCA pending

Applications

Amphi® biosurfactants are versatile solutions with unique properties:

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

In formulations, Amphi® enhances performance:

WETTING
Low CMC and surface tension reduction

EMULSIFIER
Low HLB and High HLB allows for matched-pair blending

DISPERSANT
Supports small particle size, fights re-agglomerations, and combined with wetting, increases concrentrations

MULTIFUNCTIONAL
The ester portion brings solvency and can be blended with the acid version increasing detergency

Formulating the Future:

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

Contact us for additional performance data and applications
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