LOCUS Ingredients

amphi®

"Performance-Driven, Sustainable Solutions"

Amphi® Sophorolipids

High-activity, multifunctional biosurfactants for use in water treatments.

Class Sophorolipids | **TSCA Certified***

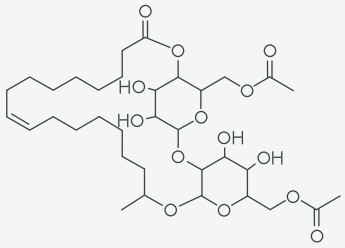
NATURAL
USDA certified as 100% biobased

SUSTAINABLE
Readily biodegradable with industry-low toxicity

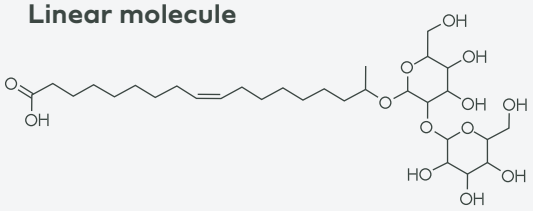
GENTLE
Safe and mild at use level without sacrificing performance

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

FREE from

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

*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 by acting as a:

EMULSIFIER
Low HLB and High HLB allows for matched-pair blending in water soluble polymer emulsions

INVERTER
High HLB Amphi CH may promote inversion and speed flocking

SOLUBILIZER
Can break biofilms, releasing them for treatment faster

BIOBASED
Potential for removing ethylene oxide-based surfactants from water treatment process

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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