

NEOLONE™ BIO

Naturally derived preservative for your personal care formulations

Characteristics	
INCI	NEOLONE™ Bio G: Glycerin and Ethyl lauroyl arginate HCl
	NEOLONE™ Bio T: Ethyl lauroyl arginate HCl
Form/consistency	NEOLONE™ Bio G: Liquid, solution in glycerin
	NEOLONE™ Bio T: powder
Odor	No Odor; No influence on the finished product at recommended use level
Solubility (LAE®)	Soluble in water, glycerin, ethanol
	Solubility in water (OECD 105): 247 g/kg at 20°C
	Critical Micelle Concentration (CMC): 2100–2500 ppm at 20°C, 1900–2000 ppm at 25°C
	Log Pow (octanol/water) (OECD 117): 1.43 at 20°C

Formulation	
Recommended use level/dosage	NEOLONE™ Bio G: 0.25–2%
	NEOLONE™ Bio T: 0.057–0.46%
Optimal pH range	3–6
Thermostability	Stable at the processing temperature up to 80°C
Point of incorporation	<ul style="list-style-type: none"> ■ Add after emulsification (either cold or hot process) ■ In hot process, addition after cooling below 45°C
Incompatibilities	Anionic thickeners: Polyacrylic acid (PAA) based polymers (carbopol, carbomer), Xanthan gum, Carboxymethyl cellulose (CMC), Carrageenan
	Anionic Surfactants: Sodium laureth or Lauryl sulfate (SLES/SLS), Alkyl phosphates or carboxylates

Compatibilities

Compatible Thickeners:

Non-ionic gum thickeners (e.g. Tara gum⁽¹⁾, Guar gum⁽¹⁾, Locust bean gum⁽¹⁾, Cellulose ether⁽¹⁾, Zea Mays starch⁽¹⁾, Sclerotium⁽¹⁾) or combination with Xanthan gum
 Viscosity adjustment with structuring agents (e.g. Cetearyl alcohol⁽¹⁾)

Cationic thickener (e.g. Polyquaternium (Polyquat 37), modified Cationic guar)

Compatible Surfactants:

Non-ionic surfactants (e.g. Alkyl glucoside⁽¹⁾, Ethoxylated alcohol, Fatty alcohol⁽¹⁾, etc), amphoteric (e.g. Cocamidopropyl betaines)

Cationic surfactants (e.g. long chain or dialkyl quaternaries)

Anionic active ingredients (e.g.: Sodium hyaluronate⁽¹⁾, Sodium lactate⁽¹⁾)

Amphoteric active ingredients (e.g.: Betaine⁽¹⁾)

Anionic preservatives (e.g. Sodium benzoate⁽¹⁾, Potassium sorbate⁽¹⁾, Sodium dehydroacetate⁽¹⁾)

Preservatives or multifunctional additives

The following preservatives or multifunctional additives passed the LANXESS Challenge test in a COSMOS compliant cream formulation in combination with 0.11 to 0.23% of NEOLONE™ Bio T:

- 0.3 – 0.5% Sodium benzoate⁽¹⁾⁽²⁾
- 0.1 – 0.3% Na Dehydroacetate⁽¹⁾⁽²⁾
- 0.1 – 0.3% Na Anisate⁽¹⁾⁽²⁾
- 0.5 – 1% 1,2-Hexanediol
- 0.1 – 0.3% Hydroxyacetophenone
- 0.3 – 0.7% Glyceryl caprylate⁽¹⁾⁽²⁾
- 0.1 – 0.3% Gluconolactone⁽¹⁾⁽²⁾
- 0.33 – 0.65% Benzyl alcohol⁽¹⁾⁽²⁾ + 0.025 – 0.05% Cinnamic acid⁽¹⁾⁽²⁾

Other Options for enhancing performance:

Add low dosages of high HLB surfactants (solubilizers to the water phase before emulsification)

Examples:

PEG-40 hydrogenated castor oil (HLB 12.5) (from 2:1 to 1:2)

Polysorbate-20 (HLB 16.7) (from 2:1 to 1:2)

Caprylyl glucoside⁽¹⁾⁽²⁾ (HLB 13 – 14) (from 2:1 to 1:2)

⁽¹⁾ Ingredients suitable for COSMOS compliant formulations

⁽²⁾ Dosage levels should be verified with testing due to the variation in personal care formulations and their susceptibility to microbial contamination. Check with your local LANXESS representative for availability and regulatory limits that may apply.



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