

Product Name	BIO-TERGE® 804
CAS Registry No.	68439-57-6, 9004-82-4 (generic), and 120-40-1
INCI Name	Sodium C ₁₄₋₁₆ Olefin Sulfonate, Sodium Laureth Sulfate, and Lauramide DEA
Applications	<p>BIO-TERGE 804 is a concentrated surfactant blend. This unique blend of mild surfactants allows the cosmetic chemist to develop a variety of economical toiletry products from one base.</p> <p>BIO-TERGE 804 can be incorporated into shampoos, liquid hand soaps, soap bars and liquid bubble baths by dilution of the concentrate. These systems can easily be opacified by the addition of a latex polymer or a glycol ester.</p> <p>BIO-TERGE 804 is readily dispersible in cold or warm water. The viscosity can be increased with the addition of inorganic salts or polymers. Recommendations for stable systems are available upon request.</p>
Typical Properties	<p>Appearance at 25°C..... Clear viscous yellow liquid</p> <p>Actives, % 37</p> <p>Solids, % by Wt..... 50</p> <p>pH, (as is)..... 6.5-7</p> <p>Viscosity, cps at 0°C 17,400</p> <p>Viscosity, cps at 25°C 797</p> <p>Viscosity, cps at 60°C 72</p> <p>Cloud Point (as is), °C (°F)..... 5 (41)</p> <p>Boiling Point, °C (°F)..... 90 (194)</p> <p>Freeze Point, °C (°F)..... -15 (5)</p> <p>Pour Point, °C (°F) -12 (10)</p> <p>Color, Gardner 3</p> <p>Flash Point (SETA), °C (°F) 51 (124)</p> <p>Density, g/ml (lbs/U.S. gal)..... 1.055 (8.8)</p> <p>RVOC, U.S. EPA, % 5</p> <p>Preservative Formaldehyde</p>
Toxicity	BIO-TERGE 804 is practically non-toxic orally (LD ₅₀ is > 5 ml/kg) and causes skin and eye irritation.
Biodegradability	Product is biodegradable. Detailed biodegradability statements on the major components are available upon request.
Storage & Handling	<p>Normal safety precautions (i.e. gloves and safety goggles) should be employed when handling BIO-TERGE 804. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling material.</p> <p>It is recommended that BIO-TERGE 804 be stored in sealed containers at temperatures above 45°F (7°C). Avoid overheating or freezing. If material is frozen, mild heat and agitation are recommended to ensure the material is homogeneous before use.</p> <p>Standard Packaging: BIO-TERGE 804 is available in bulk and in 55 gallon drums (net weight 450 lb/204 kg).</p>
Clearances	All components of BIO-TERGE 804 are listed in the following countries: United States (TSCA), Canada (DSL), Europe (EINECS/ELINCS/Polymer/NLP), Australia (AICS), Philippines (PICCS) and Korea (ECL).



Formulation

TRANSPARENT GLYCERINE SOAP BAR WITH BIO-TERGE 804 AND AMPHOSOL HCG (#874)

Transparent soap bar for use in shower, bath or hand washing.

Ingredients	Wt. % (as is)	Function
Phase 1		
Propylene Glycol	18.75	Solvent
Glycerin (Emery)	6.25	Solvent
Sorbo 60% Sorbitol Solution (SPI Polyols) Sorbitol	19.00	Solvent
BIO-TERGE 804	21.00	Surfactant
AMPHOSOL® HCG	9.00	Surfactant
Phase 2		
Stearic Acid (Uniqema)	13.00	Fatty Acid
Myristic Acid (Uniqema)	6.00	Fatty Acid
Phase 3		
Sodium Hydroxide, 50% solution	6.00	Neutralizer
Triethanolamine (TEA)	q.s.	Neutralizer
	<hr/> 100.00	

Mixing Procedure:

Add Glycerin, Sorbitol, BIO-TERGE 804, AMPHOSOL HCG and Propylene Glycol (Phase 1) to a mixing vessel. Begin heating and mixing at 300 rpm. At 140°F, add Phase 2 ingredients to the mixing vessel. Continue to heat and mix. At 165°F, add Phase 3 slowly to mixing vessel. Mix for about 20 minutes or until mixture is homogeneous and transparent. Take a small sample and measure Free Fatty Acid content (unreacted (unneutralized) free fatty acid level should be between 0.2% -0.9%). If Free Fatty Acid content is not within the range, add additional myristic acid or triethanolamine to adjust value between range.

Physical Properties:

Appearance at 25°C..... Transparent soap bar
pH (10% aqueous) 9-10
Color Light yellow
Free Fatty Acid, % (Stepan Method 050-0)..... 0.2 – 0.9

Additional
Safety
Information

A Material Safety Data Sheet is available upon request.

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Stepan

Corporate Headquarters
Northfield, Illinois 60093, U.S.A.
847-446-7500 847-501-2100 fax
Website: www.stepan.com

For Technical Service Call: Northfield, IL USA 800-745-7837
Longford Mills, Canada 705-326-7329 • Mexico City, Mexico +52-555-533-1697
Voreppe, France +33-476-505-100 • Bogota, Colombia +57-1-6362808
Stalybridge, United Kingdom +44-141-338-9083
Manila, Philippines +632-891-1708



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