

Product Bulletin

Product Name

BIO-TERGE® AS-40

CAS Registry No.

68439-57-6

INCI Name

Sodium C₁₄₋₁₆ Olefin Sulfonate

Applications

BIO-TERGE AS-40 is an aqueous solution of sodium olefin sulfonate which is produced by the continuous sulfonation of alpha olefins via Stepan's falling film process. Stepan's process minimizes the formation of disulfonates thereby offering a consistent high quality product.

BIO-TERGE AS-40 is an ideal surfactant for a variety of detergent and personal care applications including hand soaps, shampoos, and bath products. It offers the formulator excellent viscosity and foam characteristics, as well as improved mildness over lauryl sulfates. It is more stable than alcohol sulfates over a broad pH range.

Typical Properties

Appearance at 25°C.....	Clear liquid
Actives (MW 315), %	39.1
Unsulfated Matter, %	0.90
Sodium Chloride, %	0.64
Sodium Sulfate, %	0.78
pH, 10% aqueous	8.5
Color (Klett, 5% active)	55
Viscosity, cps at 25°C	125
Viscosity, cps at 60°C	79
Cloud Point (as is), °C (°F).....	7 (45)
Pour Point, °C (°F)	-4 (25)
Freeze Point, °C (°F).....	-7 (19)
Flash Point (PMCC), °C (°F)	>94 (>201)
Boiling Point, °C (°F).....	>100 (>212)
Density, g/ml (lbs/U.S. gal).....	1.062 (8.86)
RVOC, U.S. EPA, %	0
Critical Micelle Concentration, mg/L.....	301

Environmental Effects

Product is readily biodegradable. A detailed biodegradability statement is available upon request.

Health Effects

BIO-TERGE AS-40 is slightly toxic orally (LD₅₀ = 1.3-2.4 g/kg) in rats and causes moderate skin and eye irritation at 10% active.

Storage & Handling

Normal safety precautions (i.e. the use of gloves and safety goggles) should be employed when handling BIO-TERGE AS-40. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling material.

It is recommended that BIO-TERGE AS-40 be stored in sealed containers and kept at temperatures above 50°F (10°C). Avoid overheating or freezing. This material can gel and separate if exposed to cooler temperatures. Heat it slowly with mild agitation to insure its homogeneity before use.

Bulk Storage Information: Tanks made of 316 stainless steel or fiberglass with Atlac 382 corrosion liner are recommended. Positive displacement gear pumps and piping should be 316 stainless steel. Recommended storage for bulk tanks is 80-100°F (27-38°C).

Standard Packaging: BIO-TERGE AS-40 is available in bulk and 55 gallon drums (450 lb/204 kg).

BIO-TERGE®, STEPANOL®, and NINOL® are registered trademarks of the Stepan Company.



Workplace Exposure

Occupational exposure can occur primarily through skin contact or via inhalation of vapors and mists. Engineering controls, personal protective equipment, and other workplace practices should be used to control these exposures.

Clearances

All components of BIO-TERGE AS-40 are listed in the following countries; Australia (AICS), Canada (DSL), China (IECSC), Europe (EINECS), Korea (ECL), New Zealand (NZIOC), Philippines (PICCS), Japan (ENCS) and United States (TSCA).

BIO-TERGE AS-40 is USDA authorized.

BIO-TERGE AS-40 is available as Kosher Certified.

Formulation

SHOWER SOAP

<u>Ingredients</u>	<u>Wt. % (as is)</u>	<u>Function</u>
1. BIO-TERGE AS-40	30.00	Primary Surfactant
2. STEPANOL® AM	20.00	Secondary Surfactant
3. NINOL® 40-CO	4.00	Foam Stabilizer
4. HALLSTAR EGDS	0.75	Pearlizing Agent
5. Polyquaternium-7	0.50	Conditioning Agent
6. Citric Acid (50%)	q.s.	pH Adjuster
7. Fragrance, Dye, Preservative	q.s.	Additives
8. Sodium Chloride	q.s.	Viscosity Adjuster
9. D.I. Water	q.s. to 100.0	Solvent, Carrier

Mixing Procedure:

Combine the first five components in D.I. Water and heat to 70°C. Mix until all of the HALLSTAR EGDS is completely dissolved. Cool to 35°C with mixing. Adjust pH to 6.0 - 7.0 with citric acid. Add fragrance, dye and preservative, as desired. Adjust to desired viscosity with sodium chloride.

Physical Properties:

Appearance at 25°C.....	Light yellow pearly liquid
pH (as is).....	6.0 - 7.0
Viscosity (as is).....	50 cps
Viscosity (with 0.5% sodium chloride).....	180 cps
Viscosity (with 1.0% sodium chloride).....	840 cps
Viscosity (with 2.0 % sodium chloride).....	7050 cps

Product Stewardship

This product bulletin has been written in accordance with ACC's Product Stewardship guidelines.

Additional Safety Information

A Material Safety Data Sheet is available upon request.

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August 2012
 Supersedes:
 July 2012
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