

Product Bulletin

Product Name	BIO-TERGE® AS-40 HP																																		
CAS Registry No.	68439-57-6																																		
INCI Name	Sodium C ₁₄₋₁₆ Olefin Sulfonate																																		
Applications	<p>BIO-TERGE AS-40 HP 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.</p> <p>BIO-TERGE AS-40 HP 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.</p> <p>BIO-TERGE AS-40 HP is preserved by excess alkalinity which allows the formulator flexibility when choosing a preservative for their finished formulation.</p>																																		
Typical Properties	<table border="0"> <tr> <td>Appearance at 25°C</td> <td>Clear liquid</td> </tr> <tr> <td>Actives (MW 315), %</td> <td>39.1</td> </tr> <tr> <td>Unulfonated Matter, %</td> <td>0.90</td> </tr> <tr> <td>Sodium Chloride, %</td> <td>0.40</td> </tr> <tr> <td>Sodium Sulfate, %</td> <td>0.78</td> </tr> <tr> <td>pH, 10% aqueous</td> <td>11.7</td> </tr> <tr> <td>Color (Klett, 5% active)</td> <td>55</td> </tr> <tr> <td>Viscosity at 25°C, cps</td> <td>125</td> </tr> <tr> <td>Cloud Point (as is), °C (°F)</td> <td>7 (45)</td> </tr> <tr> <td>Pour Point, °C (°F)</td> <td>-4 (25)</td> </tr> <tr> <td>Freeze Point, °C (°F)</td> <td>-7 (19)</td> </tr> <tr> <td>Flash Point (PMCC), °C (°F)</td> <td>>94 (>201)</td> </tr> <tr> <td>Boiling Point, °C (°F)</td> <td>>100 (>212)</td> </tr> <tr> <td>Density, g/ml (lbs/U.S. gal)</td> <td>1.05 (8.79)</td> </tr> <tr> <td>Critical Micelle Concentration, mg/L</td> <td>301</td> </tr> <tr> <td>RVOC, U.S. EPA, %</td> <td>0</td> </tr> <tr> <td>Preservative</td> <td>Not required</td> </tr> </table>	Appearance at 25°C	Clear liquid	Actives (MW 315), %	39.1	Unulfonated Matter, %	0.90	Sodium Chloride, %	0.40	Sodium Sulfate, %	0.78	pH, 10% aqueous	11.7	Color (Klett, 5% active)	55	Viscosity at 25°C, cps	125	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)	1.05 (8.79)	Critical Micelle Concentration, mg/L	301	RVOC, U.S. EPA, %	0	Preservative	Not required
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Environmental Effects	Product is readily biodegradable. A detailed biodegradability statement is available upon request.																																		
Health Effects	BIO-TERGE AS-40 HP has not been tested, however, due to high alkalinity it is anticipated that the product would be corrosive to skin and eye when used "as is". BIO-TERGE AS-40 HP is slightly toxic orally (LD ₅₀ = 1.3-2.4 g/kg) in rats and causes moderate skin and eye irritation at 10% active.																																		
Storage & Handling	<p>Normal safety precautions (i.e., the use of gloves and safety goggles) should be employed when handling BIO-TERGE AS-40 HP. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling material.</p> <p><u>Non-Bulk Storage Recommendations:</u> It is recommended that BIO-TERGE AS-40 HP be stored in sealed containers and kept at temperatures above 50°F (10°C). Avoid overheating or freezing. This material can gel and</p>																																		



separate if exposed to cooler temperatures. If required, heat product with hot water or low-pressure steam (≤ 15 psig) along with mild agitation up to 80-100°F (27-38°C), to ensure homogeneity before use.

Bulk Storage Recommendations: 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 HP is available in bulk, tote and drum quantities.

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

The international inventories (country clearances) of BIO-TERGE AS-40 HP can be found in Section 15 of the Safety Data Sheet (SDS). It is the responsibility of the formulator to review the chemical control regulations for each country where the end product is intended to be sold or used. If you have any further questions regarding inventories, please contact North America Technical Service at techserv@stepan.com.

BIO-TERGE AS-40 HP meets the U.S. EPA Safe Choice Program's surfactant screen and is listed on www.cleangredients.org (an on-line database for green formulators). For further information, visit www.cleangredients.org. Additional Stepan ingredient listing can be found at www.stepan.com.

Product
Stewardship

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

Additional
Safety
Information

A Safety Data Sheet (SDS) is available upon request.

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