



Product Bulletin

Product Name	BIO-SOFT® N-901																																												
Chemical Description	Nonionic Blend																																												
CAS Registry Number	68439-46-3 and 66455-14-9																																												
INCI Name	Alcohols, C9-11, Ethoxylated and Alcohols, C12-13, Ethoxylated																																												
Description	BIO-SOFT N-901 is a nonionic surfactant blend that is designed to target degreasing, cleaning, emulsifying, and wetting on a variety of surfaces and soils. It can be formulated into concentrates and ready-to-use products for household, industrial, and institutional applications. It is compatible with anionic, amphoteric, and cationic surfactants, and solvents. BIO-SOFT N-901 is an environmentally-friendly and readily-biodegradable alternative that meets or exceeds the performance of individual linear alcohol ethoxylate (LAE) surfactants and nonylphenol ethoxylates (NP-9).																																												
Applications	Degreaser, Hard Surface Cleaner, Kitchen Cleaner, Oil/Water Emulsifier, Industrial Cleaner, Floor Cleaner, Wall and Tile Cleaner, Warewashing																																												
Typical Properties	<table border="0"> <tr> <td>Appearance at 25 °C</td> <td>Clear to slightly hazy liquid</td> </tr> <tr> <td>Actives, %</td> <td>96.3</td> </tr> <tr> <td>Hydroxyl Value, mg KOH/g</td> <td>128</td> </tr> <tr> <td>pH (1% in Water)</td> <td>6.5</td> </tr> <tr> <td>Color APHA.....</td> <td>10</td> </tr> <tr> <td>HLB.....</td> <td>12.0</td> </tr> <tr> <td>Molecular Weight, g/mol</td> <td>437</td> </tr> <tr> <td>EO Content, weight %</td> <td>60</td> </tr> <tr> <td>Viscosity at 25 °C, cps</td> <td>46</td> </tr> <tr> <td>Viscosity at 38 °C, cps</td> <td>30</td> </tr> <tr> <td>Flash Point (PMCC), °C (°F).....</td> <td>> 94 (> 201)</td> </tr> <tr> <td>Cloud Point (1% in Water), °C, (°F)</td> <td>40 (104)</td> </tr> <tr> <td>Pour Point, °C, (°F)</td> <td>4.5 (40)</td> </tr> <tr> <td>Freeze Point, °C, (°F)</td> <td>-11 (12)</td> </tr> <tr> <td>Density at 25 °C, g/mL (lbs/U.S. gal)</td> <td>0.981 (8.19)</td> </tr> <tr> <td>Density at 38 °C, g/mL (lbs/U.S. gal)</td> <td>0.972 (8.11)</td> </tr> <tr> <td>Critical Micelle Concentration (CMC), mg/L</td> <td>57</td> </tr> <tr> <td>Surface Tension at 0.1%, dynes/cm</td> <td>28</td> </tr> <tr> <td>Draves Wetting at 25 °C (0.1% in Water), sec</td> <td>6</td> </tr> <tr> <td>Draves Wetting at 60 °C (0.1% in Water), sec</td> <td>5</td> </tr> <tr> <td>RVOC, U.S. EPA, %</td> <td>0</td> </tr> <tr> <td>Preservative</td> <td>None required</td> </tr> </table>	Appearance at 25 °C	Clear to slightly hazy liquid	Actives, %	96.3	Hydroxyl Value, mg KOH/g	128	pH (1% in Water)	6.5	Color APHA.....	10	HLB.....	12.0	Molecular Weight, g/mol	437	EO Content, weight %	60	Viscosity at 25 °C, cps	46	Viscosity at 38 °C, cps	30	Flash Point (PMCC), °C (°F).....	> 94 (> 201)	Cloud Point (1% in Water), °C, (°F)	40 (104)	Pour Point, °C, (°F)	4.5 (40)	Freeze Point, °C, (°F)	-11 (12)	Density at 25 °C, g/mL (lbs/U.S. gal)	0.981 (8.19)	Density at 38 °C, g/mL (lbs/U.S. gal)	0.972 (8.11)	Critical Micelle Concentration (CMC), mg/L	57	Surface Tension at 0.1%, dynes/cm	28	Draves Wetting at 25 °C (0.1% in Water), sec	6	Draves Wetting at 60 °C (0.1% in Water), sec	5	RVOC, U.S. EPA, %	0	Preservative	None required
Appearance at 25 °C	Clear to slightly hazy liquid																																												
Actives, %	96.3																																												
Hydroxyl Value, mg KOH/g	128																																												
pH (1% in Water)	6.5																																												
Color APHA.....	10																																												
HLB.....	12.0																																												
Molecular Weight, g/mol	437																																												
EO Content, weight %	60																																												
Viscosity at 25 °C, cps	46																																												
Viscosity at 38 °C, cps	30																																												
Flash Point (PMCC), °C (°F).....	> 94 (> 201)																																												
Cloud Point (1% in Water), °C, (°F)	40 (104)																																												
Pour Point, °C, (°F)	4.5 (40)																																												
Freeze Point, °C, (°F)	-11 (12)																																												
Density at 25 °C, g/mL (lbs/U.S. gal)	0.981 (8.19)																																												
Density at 38 °C, g/mL (lbs/U.S. gal)	0.972 (8.11)																																												
Critical Micelle Concentration (CMC), mg/L	57																																												
Surface Tension at 0.1%, dynes/cm	28																																												
Draves Wetting at 25 °C (0.1% in Water), sec	6																																												
Draves Wetting at 60 °C (0.1% in Water), sec	5																																												
RVOC, U.S. EPA, %	0																																												
Preservative	None required																																												
Environmental Effects	BIO-SOFT N-901 is expected to be readily biodegradable. Additional information is available upon request.																																												
Health Effects	BIO-SOFT N-901 is slightly toxic orally (LD50 > 2,000 mg/kg), and at 10% active causes slight skin and moderate eye irritation.																																												



Storage & Handling

While diluting BIO-SOFT N-901, as with all alcohol ethoxylates, it is prone to gelling. If the product is diluted into water, heating may be required to minimize or eliminate gel formation.

Standard Packaging: BIO-SOFT N-901 is available in drums, totes, and in bulk quantities.

Non-Bulk Storage Recommendations: BIO-SOFT N-901 should be stored in closed containers and kept in a cool, dry place away from incompatible materials (see Section 10 of the SDS). In general, as with all alcohol ethoxylates, non-bulk packages should be stirred to ensure they are homogeneous before use. If material is frozen, it should also be heated gently and stirred to ensure it is homogeneous before use.

Bulk Storage Recommendations: BIO-SOFT N-901 should be stored in vessels of 316 stainless steel or fiberglass with a corrosion liner. Heating and agitation are recommended for outside storage. Material should be stored between 95-131 °F (35-55 °C). An internal hairpin coil of 316 stainless steel with low pressure steam (under 50 psig) should be used if heating is required. Pumps, pipes and transfer lines should be 316 stainless steel.

Normal safety precautions (i.e., gloves and safety goggles) should be employed when handling BIO-SOFT N-901. Contact with eyes, nose or prolonged contact with skin should be avoided. Wash thoroughly after handling BIO-SOFT N-901.

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-SOFT N-901 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-SOFT N-901 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). This product has a maximum use level of 25%. 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 is available upon request.



The information contained herein is based on the manufacturer's own study and the works of others and is subject to change without prior notice. The information is not intended to be all-inclusive, including as to the manner and conditions of use, handling, storage or disposal or other factors that may involve additional legal, environmental, safety or performance considerations. Nothing contained herein grants or extends a license, express or implied, in connection with any patents issued or pending of the manufacturer or others, or shall be construed as a recommendation to infringe any patents or to violate any applicable laws. STEPAN COMPANY MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR USE, AND NO WARRANTY OR GUARANTY OF ANY OTHER KIND, EXPRESS OR IMPLIED, IS MADE, INCLUDING REGARDING PERFORMANCE, SAFETY, SUITABILITY, STABILITY, ACCURACY, COMPLETENESS, ADEQUACY OR OTHERWISE. Stepan Company (and its employees, subsidiaries and affiliates) shall not be liable (regardless of fault) to the vendee, its employees, or any other party in respect of this information, including in respect of its accuracy, completeness, adequacy, furnishing, use, or reliance upon, and the vendee assumes and releases Stepan Company (and its employees, subsidiaries and affiliates) from all liability, whether in tort, contract or otherwise to the fullest extent possible under the relevant law.

Stepan 
Corporate Headquarters
Northfield, Illinois 60093, U.S.A.
Phone: 847-446-7500
Fax: 874-501-2100
Website: www.stepan.com

For Technical Service Call:
Stepan Company USA **+1-800-745-7837**
Stepan Mexico **+55-11-5089-2208**
Stepan Quimica **+55-11-5089-2200**
Stepan Colombia **+571-636-2808**
Stepan Europe **+33-476-505-160**
Stepan Asia **+656-879-9855**
Stepan Philippines **+656-879-9855**

For Customer Service Call:
Stepan Company USA **+1-800-457-7673**
Stepan Mexico **+52-555-533-1967**
Stepan Quimica **+55-11-5089-2200**
Stepan Colombia **+57-6-8993125**
Stepan UK **+44-161-338-5511**
Stepan France **+33-476-50-51-00**
Stepan Philippines **+63-2-842-7951**