

## Product Bulletin

Product Name	<b>BIO-SOFT® N-600</b>																																												
Chemical Description	Nonionic Blend																																												
CAS Registry Number	66455-14-9																																												
INCI Name	Alcohols, C12-13 Ethoxylated																																												
Description	BIO-SOFT N-600 is a nonionic surfactant blend that is designed to target wetting, emulsifying, and cleaning 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 anionics, amphoteric, cationics, and solvents. BIO-SOFT N-600 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-6).																																												
Applications	Institutional and Industrial Cleaning, C.A.S.E., Paint Additives, Oilfield																																												
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>100</td> </tr> <tr> <td>Hydroxyl Value, mg KOH/g.....</td> <td>134</td> </tr> <tr> <td>pH (1% in Water) .....</td> <td>5.5-7.5</td> </tr> <tr> <td>Color APHA .....</td> <td>10</td> </tr> <tr> <td>HLB.....</td> <td>10.6</td> </tr> <tr> <td>Molecular Weight, g/mol .....</td> <td>410</td> </tr> <tr> <td>EO Content, weight % .....</td> <td>53</td> </tr> <tr> <td>Viscosity at 25 °C, cps .....</td> <td>70</td> </tr> <tr> <td>Viscosity at 38 °C, cps .....</td> <td>30</td> </tr> <tr> <td>Flash Point (PMCC), °C (°F).....</td> <td>&gt; 94 (&gt; 201)</td> </tr> <tr> <td>Cloud Point (1% in Water), °C, (°F) .....</td> <td>&lt; 25 (&lt; 77)</td> </tr> <tr> <td>Pour Point, °C, (°F).....</td> <td>5 (41)</td> </tr> <tr> <td>Freeze Point, °C, (°F) .....</td> <td>9 (48)</td> </tr> <tr> <td>Density at 25 °C, g/mL (lbs/U.S. gal).....</td> <td>0.928 (7.74)</td> </tr> <tr> <td>Density at 38 °C, g/mL (lbs/U.S. gal).....</td> <td>0.918 (7.66)</td> </tr> <tr> <td>Critical Micelle Concentration (CMC), mg/L .....</td> <td>10</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>15</td> </tr> <tr> <td>Draves Wetting at 60 °C (0.1% in Water), sec .....</td> <td>13</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, % .....	100	Hydroxyl Value, mg KOH/g.....	134	pH (1% in Water) .....	5.5-7.5	Color APHA .....	10	HLB.....	10.6	Molecular Weight, g/mol .....	410	EO Content, weight % .....	53	Viscosity at 25 °C, cps .....	70	Viscosity at 38 °C, cps .....	30	Flash Point (PMCC), °C (°F).....	> 94 (> 201)	Cloud Point (1% in Water), °C, (°F) .....	< 25 (< 77)	Pour Point, °C, (°F).....	5 (41)	Freeze Point, °C, (°F) .....	9 (48)	Density at 25 °C, g/mL (lbs/U.S. gal).....	0.928 (7.74)	Density at 38 °C, g/mL (lbs/U.S. gal).....	0.918 (7.66)	Critical Micelle Concentration (CMC), mg/L .....	10	Surface Tension at 0.1%, dynes/cm.....	28	Draves Wetting at 25 °C (0.1% in Water), sec .....	15	Draves Wetting at 60 °C (0.1% in Water), sec .....	13	RVOC, U.S. EPA, % .....	0	Preservative.....	None required
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Environmental Effects	BIO-SOFT N-600 is expected to be readily biodegradable. Additional information is available upon request.																																												
Health Effects	BIO-SOFT N-600 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-600, 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-600 is available in drums (400 lb, 181 kg), totes (2010 lb, 912 kg), and in bulk quantities.

**Non-Bulk Storage Recommendations:** BIO-SOFT N-600 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-600 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-600. Contact with eyes, nose or prolonged contact with skin should be avoided. Wash thoroughly after handling BIO-SOFT N-600.

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-SOFT N-600 are listed in the following countries; the registration numbers for the active ingredients are included in parentheses: Australia (AICS 66455-14-9), Canada (DSL 66455-14-9), China (IECSC 66455-14-9), Japan (ENCS 7-97), Korea (ECL Serial No. KE-13386), New Zealand (NZIoC 66455-14-9), Philippines (PICCS 66455-14-9), Taiwan (TCSI 66455-14-9), and United States (TSCA 66455-14-9).

**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.**

BIO-SOFT N-600 meets the U.S. EPA Safe Choice Program's surfactant screen and is listed on [www.cleangredients.org](http://www.cleangredients.org) (an on-line database for green formulators). For further information, visit [www.cleangredients.org](http://www.cleangredients.org). Additional Stepan ingredient listing can be found at [www.stepan.com](http://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.



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