

## Product Bulletin

### BIO-SOFT® EC-600, EC-690 and EC-639

Product Name  
Chemical Structure  
Chemical Description  
CAS Registry No.  
Applications

CH<sub>3</sub>(CH<sub>2</sub>)<sub>n</sub>-O(CH<sub>2</sub>CH<sub>2</sub>O)<sub>y</sub>H  
n = 11-13  
y = average moles of ethoxylation

Alcohol ethoxylates based on a C<sub>1214</sub> natural alcohol

68002-97-1

**BIO-SOFT EC series** are nonionic surfactants prepared by ethoxylating fatty alcohol. The BIO-SOFT EC series products are stable in both aqueous acidic and alkaline solutions, allowing for application in a wide range of products. They provide moderate, stable foam and high detergency for use in laundry products, consumer and I&I hard surface cleaners. The BIO-SOFT EC series products are water soluble and highly effective at low concentrations, working well in warm and hot water applications.

Typical Properties

	<b>BIO-SOFT EC-600</b>	<b>BIO-SOFT EC-690</b>
INCI Name .....	Laureth-7	Laureth-7
Alternate CAS Registry No. ....	9002-92-0	9002-92-0
Appearance at 30 °C.....	Clear to hazy liquid	Clear to hazy liquid
Average No. Moles EO.....	7	7
HLB .....	12.2	12.2
pH, 1% 10:6 IPA:Water .....	6.8	6.8
Density, g/ml (lbs/U.S. gal).....	0.960 (8.00)	0.988 (8.23)
Actives, % .....	99.5 min	90 min
Color, APHA.....	50 max	50 max
Pour Point, °C (°F) .....	19 (66)	5 (41)
Viscosity at 25 °C (77 °F), cps.....	50	60
Cloud Point (1% aqueous), °C (°F) .....	51 (124)	51 (124)
Flash Point, PMCC, °C (°F).....	>94 (>201)	>94 (>201)
RVOC, U.S. EPA, %.....	0	0
Preservative .....	Not required	Not required
		<b>BIO-SOFT EC-639</b>
Appearance at 25 °C.....	Clear to slightly hazy liquid	
Average No. Moles EO.....	8.2	
HLB .....	13.3	
pH, 5% in 1:1 IPA:Water .....	6.5	
Density, g/ml (lbs/U.S. gal).....	1.018 (8.50)	
Actives, % .....	90 min.	
Color, APHA.....	150 max.	
Viscosity at 25 °C (77 °F), cps.....	96	
Cloud Point (1% aqueous), °C (°F) .....	73 (163)	
Flash Point, PMCC, °C (°F).....	>94 (>201)	
RVOC, U.S. EPA, %.....	0	
Preservative .....	Not required	

Biodegradability

The BIO-SOFT EC series products are readily biodegradable. A detailed biodegradability statement is available upon request.



Toxicity

The BIO-SOFT EC-Series products are moderately toxic orally (Oral LD<sub>50</sub> rat; undiluted 930-2140 mg/kg). Undiluted, the BIO-SOFT EC series products are moderately to severely irritating to skin and severely irritating to eye; while a 1% dilution generally causes slight to mild skin irritation.

Storage & Handling

Normal safety precautions (i.e., gloves and safety goggles) should be employed when handling BIO-SOFT EC series products. Contact with eyes and skin should be avoided. Wash exposed areas thoroughly after handling material.

While diluting the BIO-SOFT EC series products, as with all alcohol ethoxylates, they are prone to gelling. If the product is diluted into water, heating may be required to minimize or eliminate gel formation. It is recommended that the BIO-SOFT EC series products be stored in sealed containers and kept in a cool, dry place. If material is frozen, it should be heated gently, and stirred to ensure it is homogeneous before use.

Standard Packaging: The BIO-SOFT EC series products are available in bulk and 205 kilogram drums.

Workplace Exposures

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) for BIO-SOFT EC-600, BIO-SOFT EC-690 and BIO-SOFT EC-639 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](mailto:techserv@stepan.com).

BIO-SOFT EC-690 and BIO-SOFT EC-639 meet the U.S. EPA Safe Choice Program's surfactant screen and are 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)

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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