

Stepan's Cocamide DEA Replacements for Personal Care



Stepan's Cocamide DEA Replacements

California's Office of Environmental Health Hazard Assessment (OEHHA) has listed Cocamide DEA (CAS No. 68603-42-9) on Proposition 65. For those looking to reformulate, Stepan provides replacements for Cocamide DEA (NINOL® 40-CO). On subsequent pages, Stepan provides typical foam generation and viscosity response data for three surfactant systems representative of personal care liquid cleansing applications. Performance data for additional personal care surfactant systems, not mentioned in this tool, is available upon request.

Listed below are the Stepan secondary surfactants that were evaluated as replacements for Cocamide DEA. For further technical assistance, please contact your local Stepan sales representative or Stepan U.S. Technical Service.

	Amides			Betaines		Amine Oxide	Specialties	
Secondary Surfactants	NINOL® 40-CO	NINOL® COMF-N	NINOL® MIO	AMPHOSOL® HCG	AMPHOSOL® LB	AMMONYX® LMDO	STEPAN-MILD® GCC	LATHANOL® LAL POWDER
INCI Name	Cocamide DEA	Cocamide MEA	Cocamide MIPA	Cocamidopropyl Betaine	Laurylamidopropyl Betaine	Lauryl/Myristyl Amidopropyl Amine Oxide	Glyceryl Caprylate/Caprates	Sodium Lauryl Sulfoacetate
Actives, %	100%	100%	100%	30%	30%	33%	100%	65%
Appearance at 25°C	Liquid	Flake	Flake	Liquid	Liquid	Liquid	Liquid to soft paste	Powder
Feedstock	Fatty triglyceride	Fatty triglyceride	Fatty methyl esters	Fatty triglyceride	Fatty methyl esters	Fatty methyl esters	Fatty acid, glycerin	Fatty alcohol
Ionic Character	Nonionic	Nonionic	Nonionic	Amphoteric	Amphoteric	Amphoteric	Nonionic	Anionic
Product Attributes	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Contains residual glycerin ◆ Foam stabilizer 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Stable in neutral, alkaline and acidic systems ◆ Foam stabilizer 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Stable in neutral, alkaline and acidic systems ◆ Foam stabilizer 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Contains residual glycerin ◆ Stable in neutral, alkaline and acidic systems 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Stable in neutral, alkaline and acidic systems 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Stable in neutral, alkaline and acidic systems 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-free ◆ Foam enhancer ◆ Cold mixable ◆ Food grade ◆ ECOCERT-approved ◆ Nitrogen-free 	<ul style="list-style-type: none"> ◆ Naturally-derived* ◆ EO/PO-Free ◆ Nitrogen-free

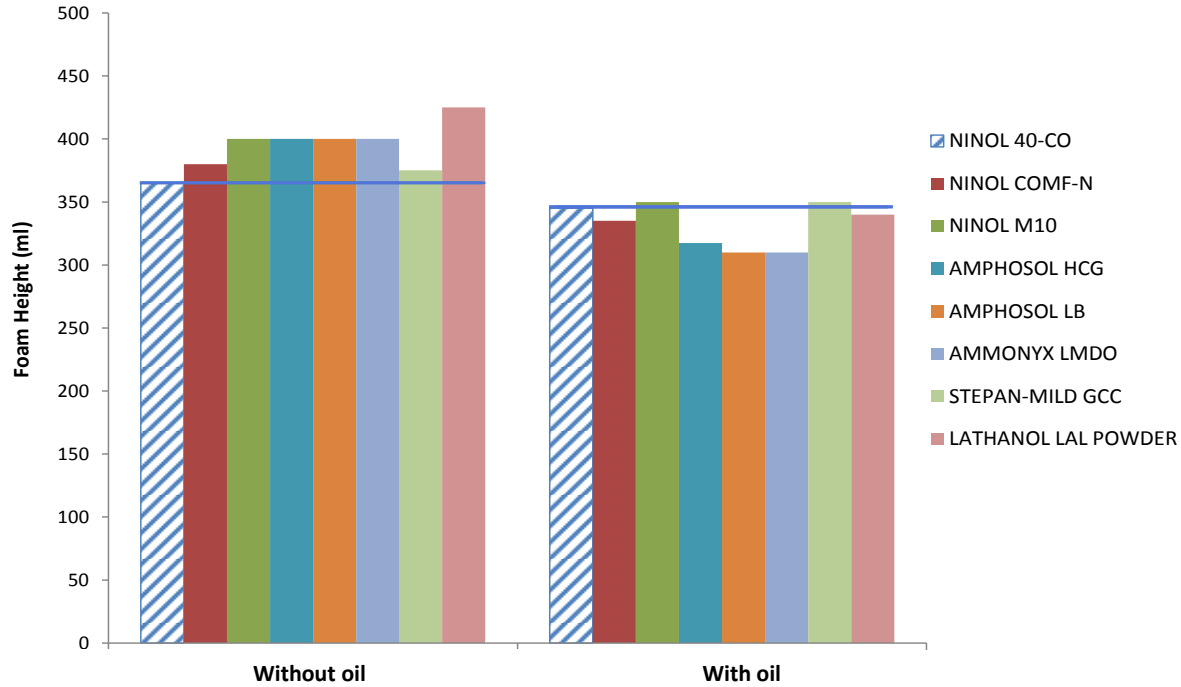
*Naturally-derived: Stepan defines as derived from biorenewable resource originating from animal, plant or marine feedstock. All products noted as "naturally-derived" in this brochure have a minimum of 50% biorenewable carbon content (based on Stepan's BCI calculation). Stepan's BCI can be found at www.stepan.com.

Stepan's CDEA Replacements - Performance with SLES-1

SLES-1

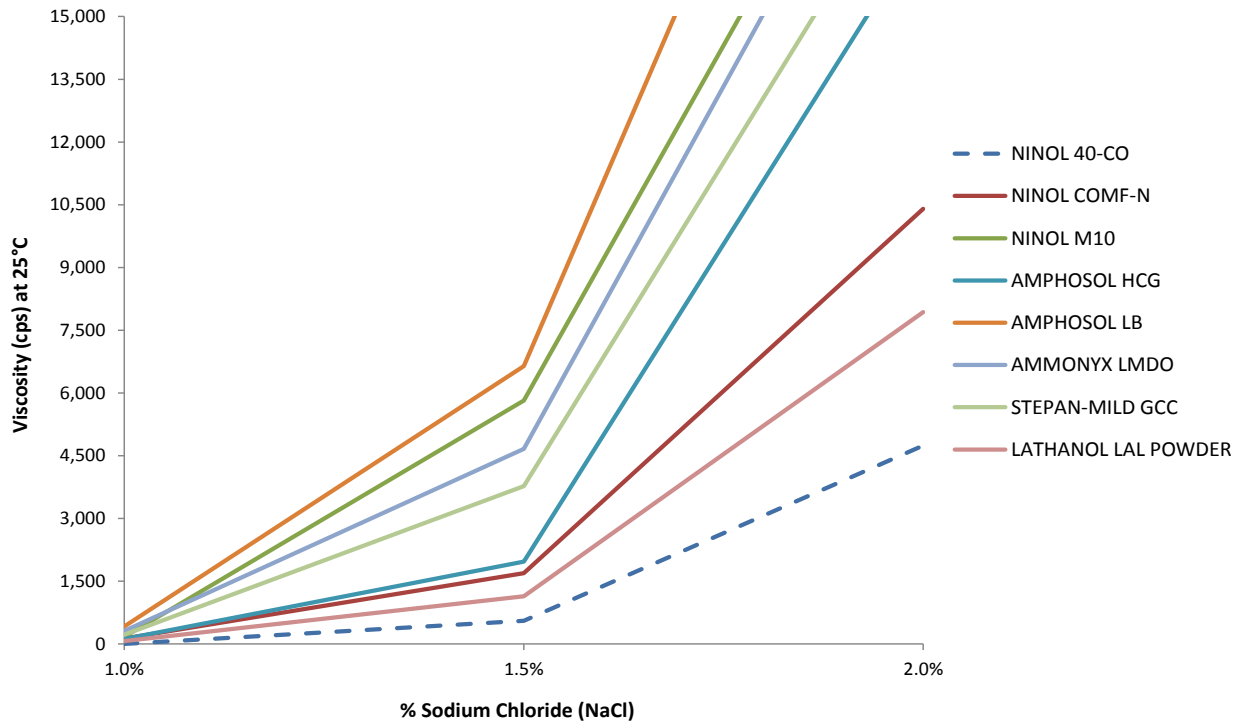
Formulation: 12% active STEOL® CS-130 (INCI: Sodium Laureth Sulfate) with 1% active Secondary Surfactant

Foaming Properties



Test Method SM010-D: Shake Foam (0.2% active solution at 25 °C)

Viscosity Response

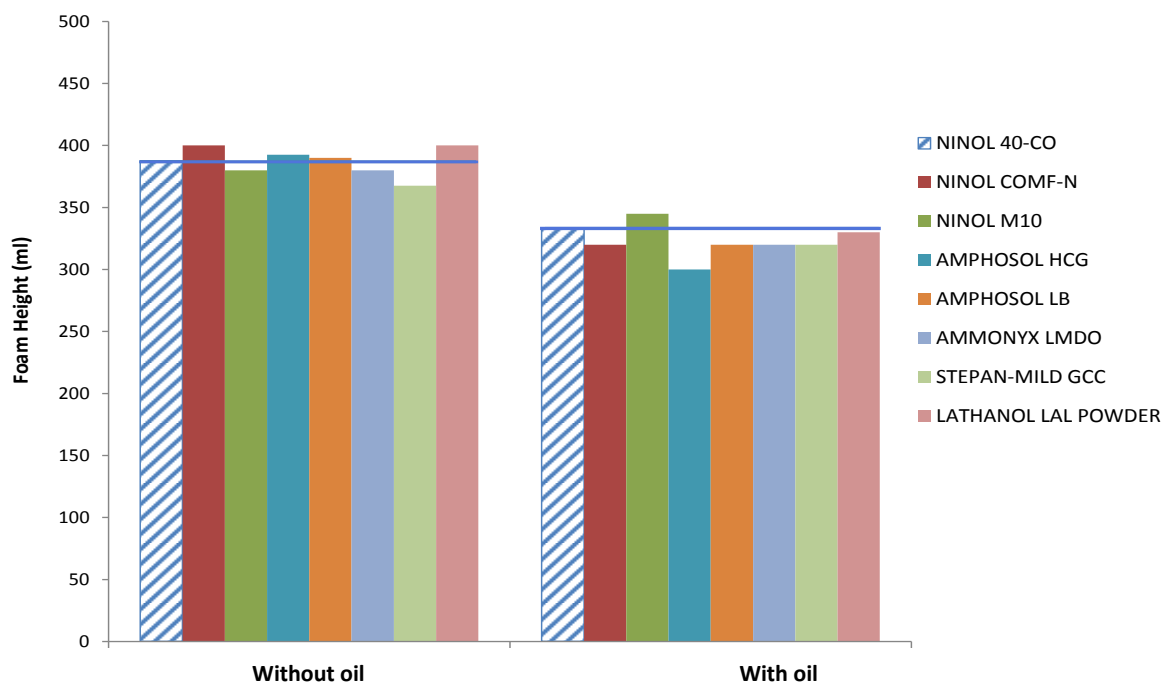


Any of the above secondary surfactants provide equivalent foam volume and improved viscosity response compared to NINOL® 40-CO on an equal actives basis in this system.

Stepan's CDEA Replacements - Performance with SLES-2

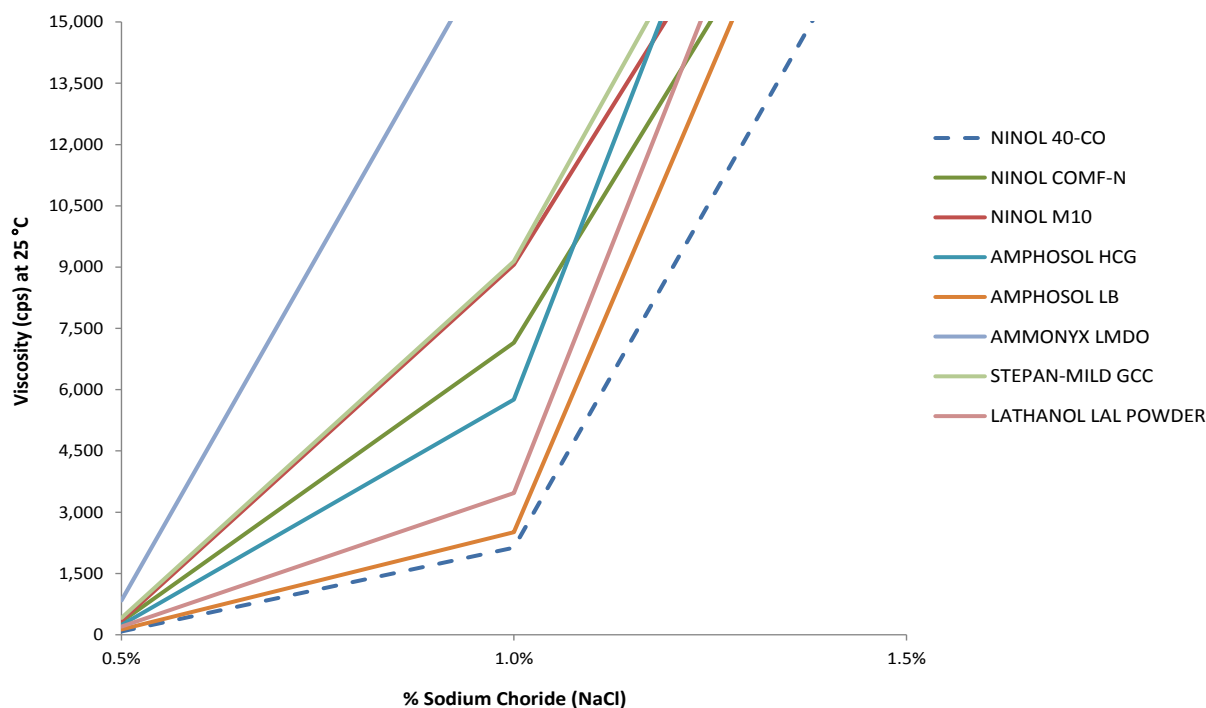
Formulation: 12% active STEOL® CS-230 (INCI: Sodium Laureth Sulfate) with 2% active AMPHOSOL® HCA and 1% active Secondary Surfactant

Foaming Properties



Test Method SM010-D: Shake Foam (0.2% active solution at 25 °C)

Viscosity Response

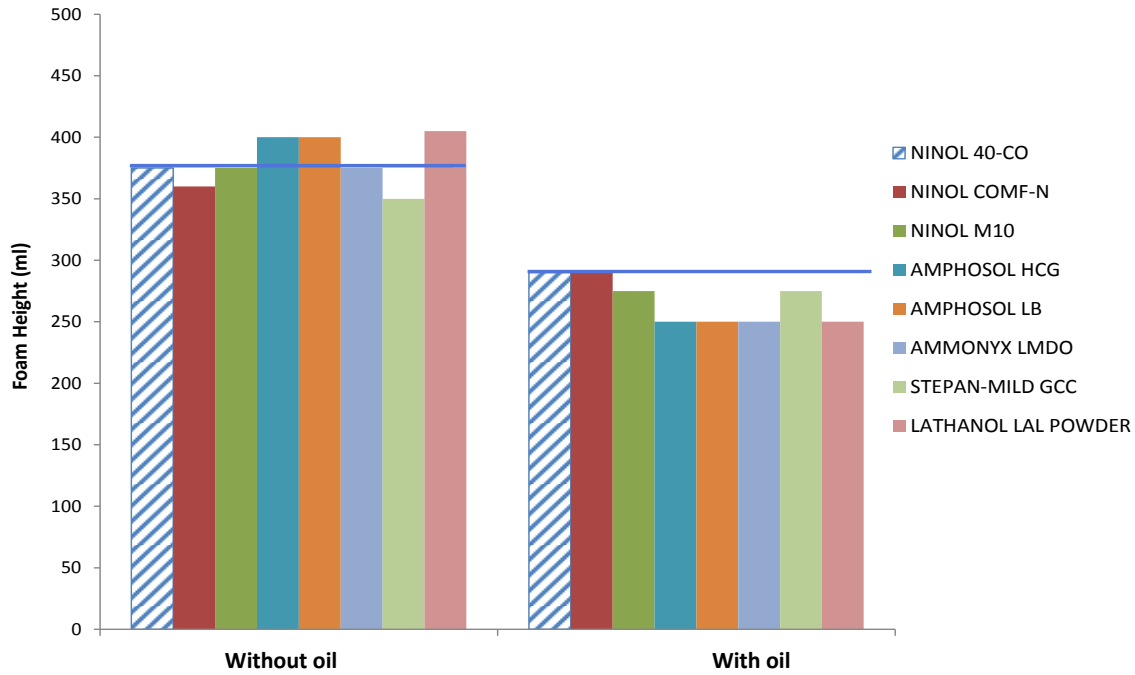


Any of the above secondary surfactants provide equivalent foam volume and improved viscosity response compared to NINOL® 40-CO on an equal actives basis in this system. AMMONYX® LMDO builds viscosity exceptionally well.

Stepan's CDEA Replacements - Performance with AOS

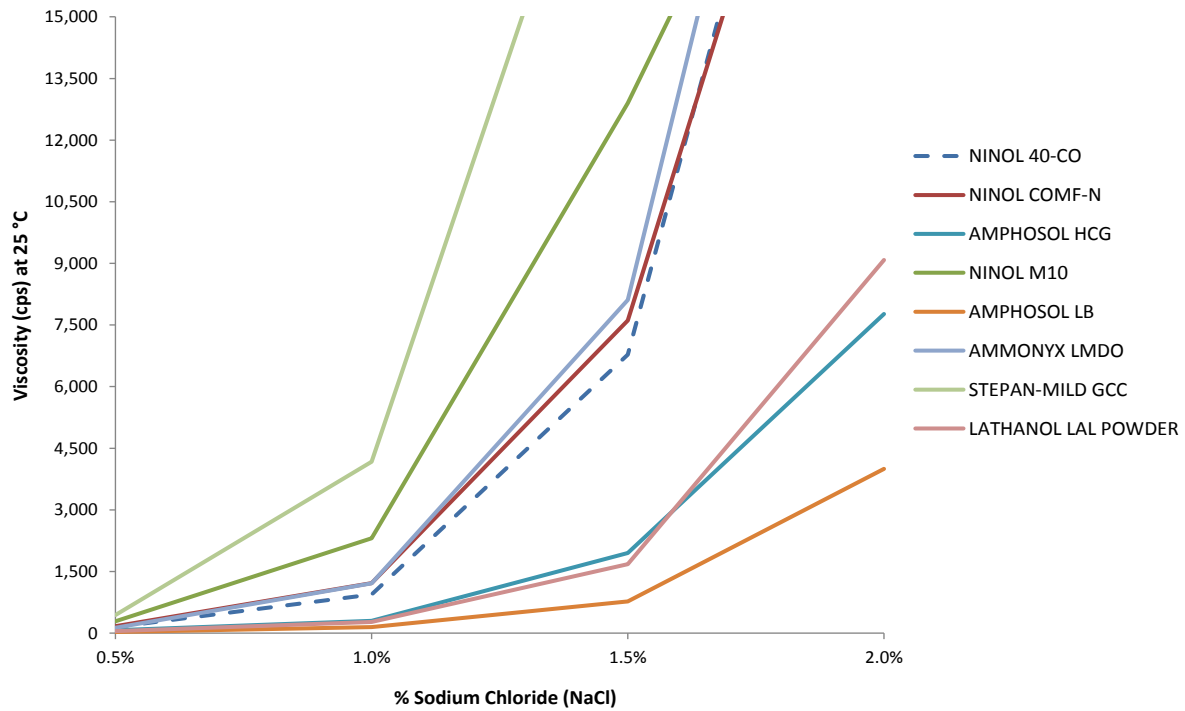
Formulation: 10% active BIO-TERGE® AS-40 (INCI: Sodium C₁₄₋₁₆ Olefin Sulfonate) with 4% active AMPHOSOL® HCA and 1% active Secondary Surfactant

Foaming Properties



Test Method SM010-D: Shake Foam (0.2% active solution at 25 °C)

Viscosity Response



Any of the above secondary surfactants provide equivalent foam volume compared to NINOL® 40-CO on an equal actives basis in this system. STEPAN-MILD® GCC and NINOL® M10 show improved performance in viscosity response.

Stepan Formulation Prototypes

LIQUID HAND SOAP (No. 149)

<u>Ingredients</u>	<u>% by Weight</u>
Deionized Water	q.s to 100.0
BIO-TERGE® AS-40	10.00
STEPANOL® AM (Ammonium Lauryl Sulfate)	8.74
STEPANOL® WAT (TEA Lauryl Sulfate)	6.25
NINOL® M10	3.00
Citric Acid	q.s.
Fragrance, Dye, & Preservative	q.s.
Sodium Chloride or Sodium Hydroxide	q.s.
Total	100.0

BUBBLE BATH (No. 733)

<u>Ingredients</u>	<u>% by Weight</u>
Deionized Water	q.s. to 100.0
STEOL® CS-330 (Sodium Laureth Sulfate)	36.0
AMPHOSOL® HCG	5.0
STEPAN-MILD® SL3-BA (Disodium Laureth Sulfosuccinate)	5.0
Glycerin	3.0
NINOL® M10	2.0
Sodium Chloride	q.s.
Citric Acid	q.s.
Preservative, Fragrance, and Dye	q.s.
Total	100.0

SHOWER GEL (No. 697)

<u>Ingredients</u>	<u>% by Weight</u>
Deionized Water	q.s to 100.0
STEPAN-MILD® LSB (Sodium Lauryl Sulfoacetate and Disodium Laureth Sulfosuccinate)	24.0
AMPHOSOL® LB	12.7
LATHANOL® LAL POWDER	4.6
Glycerin	0.5
Sodium Chloride	q.s.
Citric Acid or Sodium Hydroxide	q.s.
Preservative, Fragrance, and Dye	q.s.
Total	100.0

MILD AMIDE-FREE CLEAR BODY WASH (No. 1081)

<u>Ingredients</u>	<u>% by Weight</u>
Deionized Water	q.s. to 100.0
STEOL® CS-230	28.9
STEPAN-MILD® LSB	18.9
AMPHOSOL® HCG	10.0
STEPAN-MILD® GCC	2.0
Glydant (Lonza) DMDM Hydantoin	0.2
Citric Acid	q.s.
Fragrance and Dye	q.s.
Total	100.0

FACIAL CLEANSER (No. 1059)

<u>Ingredients</u>	<u>% by Weight</u>
Deionized Water	q.s to 100.0
BIO-TERGE® AS-40 CG-K	25.0
ALPHA-STEP® PC-48 (Sodium Methyl 2-Sulfolaurate and Disodium 2-Sulfolaurate)	8.5
STEPAN® 745 GC (PEG/PPG-6/2 Glyceryl Cocoate)	6.0
Glycerin	0.8
AMPHOSOL® HCA	11.6
NINOL® COMF-N	2.0
Glydant (Lonza) DMDM Hydantoin	0.2
Peptin CAA (Leiner Davis) Collagen Amino Acids	0.2
Fragrance and Dye	q.s.
Citric Acid	q.s.
Sodium Chloride	q.s.
Total	100.0

NATURALLY-DERIVED*, SULFATE-FREE, CONDITIONING SHAMPOO (No. 1094)

<u>Ingredients</u>	<u>% by Weight</u>
Deionized Water	q.s. to 100.0
STEPAN-MILD® PCL (Sodium Methyl-2 Sulfolaurate and Disodium 2-Sulfolaurate, Sodium Lauryl Sulfoacetate)	38.0
AMPHOSOL® HCG	10.0
Glycerin	0.5
HALLSTAR EGDS (HALLSTAR) Glycol Distearate	0.5
STEPAN-MILD® GCC	0.3
DL-Panthenol (Roche) Panthenol	0.2
Versene 100 (Dow Chemical) Tetrasodium EDTA	0.1
Sodium Chloride	q.s.
Citric Acid or Sodium Hydroxide	q.s.
Preservative, Fragrance, and Dye	q.s.
Total	100.0

Formulating may require certain equipment capable of mixing and heating. For additional information on procedures and other available formulations, please contact Stepan's U.S. Technical Service or visit Stepan's website at www.stepan.com.

*Naturally-derived: Stepan defines as derived from biorenewable resource originating from animal, plant or marine feedstock. All Stepan surfactants used in Formulation No. 1094 have a minimum of 50% biorenewable carbon content (based on Stepan's BCI calculation). Other ingredients were not evaluated. Stepan's BCI can be found at www.stepan.com.

Proposition 65 Commonly Asked Questions

Am I required to warn for Proposition 65 on an FDA-regulated product?

Proposition 65 is not preempted by FDA. Therefore, businesses that manufacture or sell into the State of California must comply with Proposition 65 as well as all warning requirements for FDA-regulated personal care and cosmetic products.

When a chemical is listed on Proposition 65, how long do I have before I am obligated to warn?

Those entities that manufacture or sell into the State of California have 12 months from the date the chemical is posted on OEHHA's Proposition 65 List to warn. In regards to Cocamide DEA (CAS No. 68603-42-9) and DEA (CAS No. 111-42-2), the deadline to warn is June 22, 2013. There is no sell-through provision* language or notation in Proposition 65. Therefore, all clear and reasonable warning is required within 12 months of the listing date.

Has a No Significant Risk Level (NSRL) for Cocamide DEA or free DEA been proposed or approved by the Office of Environmental Health Hazard Assessment (OEHHA)?

OEHHA has placed Cocamide DEA and DEA on a First Priority List for the Development of a Proposition 65 Safe Harbor Level NSRL. The timeline to develop an NSRL is likely within two years. Visit http://oehha.ca.gov/prop65/cnrn_notices/state_listing/prioritization_notices/prior083012.html for more information.

For further guidance on Proposition 65, please consult OEHHA website at <http://www.oehha.ca.gov/prop65.html>.

Does Stepan's MEA Amide contain free DEA?

The supplier of the Monoethanolamine (MEA) that is used to manufacture Stepan's MEA amides has indicated a level of 0.05% max. free DEA in the MEA. Please note that upon manufacture of an MEA amide, a portion of the free DEA will convert to Cocamide DEA and part will remain unreacted as DEA. Both components are Proposition 65 listed and therefore should be included in the evaluation of your finished formulation.

*For the definition of "sell-through provision" see California's Regulation for Reducing Emissions from Consumer Products under §94509(c).

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