

Stepan's Naturally-Derived* Amine Oxides

Stepan's naturally-derived* amine oxides are made from biorenewable feedstock and are suited for use primarily in Household, Institutional and Industrial applications, but may also be used in Personal Care applications. AMMONYX® LO Special is the latest naturally-derived surfactant offering from Stepan.

Typical Properties



Trade Name	<u>AMMONYX® CDO Special</u>	<u>AMMONYX® LMDO</u>	<u>AMMONYX® LO Special</u>
Chemical Name	Cocamidopropyl amine oxide	Lauryl/myristyl amidopropyl amine oxide	Lauramine oxide
CAS#	68155-09-9	61792-31-2, 67806-10-4	1643-20-5
Appearance at 25°C	Clear liquid	Clear liquid	Clear liquid
pH	7.5 (as is)	8.0 (10% aqueous)	7.5 (10% aqueous)
Amine oxide, %	33%	33%	30%
Free amine, %	0.5%	0.4%	0.5%
Free peroxide, %	0.18%	0.14%	0.14%
Viscosity at 25°C	45 cps	45 cps	77 cps
BCI ^a , %	72	72	86

Formulating Tips

<u>Product Attribute</u>	<u>CDO Special</u>	<u>LMDO</u>	<u>LO Special</u>
Stable in Hydrogen peroxide	✓	✓	✓✓
Stable in Hypochlorite bleach			✓✓
Superior Grease Cutter	Good	Good	Best
Lime Soap Dispersant (neutral to alkaline pH)	Good	Good	Best
Higher Salt Tolerance	✓	✓✓	
Meets DfE screen on www.cleangredients.org		✓✓	

*Naturally-derived – Stepan defines naturally-derived as made from biorenewable feedstock (derived from plant, animal or marine sources).

^aBiorenewable Carbon Index - The number of biorenewable carbons (plant, animal or marine based) divided by the number of total carbons (natural and petroleum-based) in the idealized molecule x 100.

Formulations

Formulation #1115: Tub & Tile Cleaner

Total BCI^b: 86

<u>Ingredients</u>	<u>Surfactant BCI</u>	<u>Wt%</u>	<u>Functionality</u>
Deionized water	-	91.0	Carrier
Citric acid	-	4.0	Builder
AMMONYX® LO Special	86	5.0	Degreaser, Foaming/ Cleaning Agent
Preservative, dye, fragrance	-	q.s.	Additives
TOTAL		100.0	

Typical Properties

Appearance at 25°C:	Clear liquid
pH, as is:	2.7
Viscosity at 25°C, cps:	Water thin



Formulation #1116: Bathroom Cleaner with Bleach

Total BCI^b: 86

<u>Ingredients</u>	<u>Surfactant BCI</u>	<u>Wt%</u>	<u>Functionality</u>
Deionized water	-	79.5	Carrier
Sodium hydroxide, 50%	-	1.0	Alkalinity
Sodium metasilicate • 5H ₂ O	-	0.5	Builder
AMMONYX® LO Special	86	5.0	Degreaser, Foaming/ Cleansing Agent
Sodium hypochlorite, 15%	-	14.0	Bleach
Preservative	-	q.s.	Additive
TOTAL		100.0	

Typical Properties

Appearance at 25°C:	Clear liquid
pH, as is:	12.8
Viscosity at 25°C:	Water thin

Formulation #1118: Premium High-BCI Hand/Dishwash Liquid

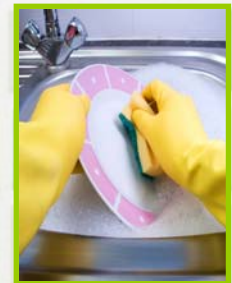
Total BCI^b: 96

<u>Ingredients</u>	<u>Surfactant BCI</u>	<u>Wt%</u>	<u>Functionality</u>
Deionized water	-	10.61	Carrier
STEPANOL® WA-EXTRA K	100	55.17	Primary Surfactant
ALPHA-STEP® PC-48	94	21.05	Surfactant
AMMONYX® LO Special	86	13.11	Foam Stabilizer/Degreaser
Sodium Chloride	-	q.s.	Viscosity adjusters
Citric acid or Sodium hydroxide	-	q.s.	pH adjusters
Kathon CG (Rohm and Haas)	-	0.05	Preservative
Dye, fragrance	-	q.s.	Additives
TOTAL		100.00	

Typical Properties

Appearance at 25°C:	Clear liquid
pH, as is:	8.0
Viscosity at 25°C, cps:	1,600-2,000

^b Total BCI was calculated using only the Stepan surfactants in these formulations.



For a complete listing of Stepan products, visit us at www.stepan.com.

To request a sample, literature or more information, contact, Stepan Technical Services Department at 1-800-745-7837 (STEP) or techserv@stepan.com.

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