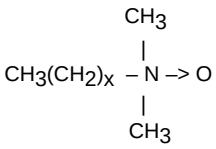
Stepan

Product Bulletin

AMMONYX® LO

Product Name

Chemical Structure



$CH_3(CH_2)_X – N(CH_3)_2 \rightarrow O$ x = 11 (predominantly)

CAS Registry No. 1643-20-5

INCI Name Lauramine Oxide

Applications

Functional Properties

- Foam Enhancer
- Foam Stabilizer
- Viscosity Builder
- Lubricant*
- Bleach Stable
- Emulsifier*
- Wetting Agent*
- Dye Dispersant*
- Can be formulated with anionic, nonionic and cationic materials.
- Acid Stable

*(*For the textile industry)*

End Product Uses

Personal Care

- Shampoos
- Handsoaps
- Bath Products
- Creams & Lotions
- Hair Conditioners

Household & I&I

- Dishwashing Detergents
- Cleansers
- Hard Surface Cleaners (which contain acids or bleach)

Typical Properties

Appearance at 25°C	Clear liquid	Color (APHA), as is	100 max.
Amine Oxide (MW 251), %	30	Viscosity, cps at 25°C	18
Free Amine (MW 235), %	0.49	Flash Point (PMCC), °C (°F)	>94 (>201)
pH, 10% aqueous	8.0	Density, g/ml (lbs/U.S. gal).	0.968 (8.05)
Cloud Point (as is), °C (°F)	-1 (30)	RVOC, U.S. EPA, %	0
Boiling Point, °C (°F)	100 (212)	Free Peroxide, %	0.13
Preservative	Not required		

Biodegradability Product is readily biodegradable. A detailed biodegradability statement is available upon request.

Toxicity The available toxicity data shows AMMONYX LO to be slightly toxic orally to rats, (LD_{50} = 3600 mg/kg). At 2.5% active, AMMONYX LO may cause severe eye irritation and minimal irritation to the skin.

Storage & Handling Normal safety precautions (i.e. gloves and safety goggles) should be employed when handling AMMONYX LO. Contact with the eyes and prolonged contact with the skin should be avoided. Wash thoroughly after handling material.

It is recommended that AMMONYX LO be stored in sealed containers and kept at temperatures not lower than 50°F (10°C) nor higher than 120°F (49°C). Avoid overheating or freezing.

Bulk Storage Information: Tanks, with a conservation vent, made of 316L stainless steel or fiberglass with an Atlac 382 corrosion liner are recommended. Centrifugal or positive displacement gear pumps and piping should be 316L stainless steel. Recommended storage for bulk tanks is 20-52°C (68-125°F).

Standard Packaging: AMMONYX LO is available in bulk and in 55 gallon drums (net weight 425 lb/193 kg).

Clearances All components of AMMONYX LO are listed in the following countries; the registration numbers for the active ingredients are included in parentheses: United States (TSCA 1643-20-5), Europe (EINECS 216-700-6), Japan (ENCS 2-198), Canada (DSL 1643-20-5), Australia (AICS 1643-20-5), Korea (ECL Serial No. KE-

March 2013
Supersedes:
May 2010

Clearances

11348), Philippines (PICCS 1643-20-5) and China (EICS 1643-20-5).

AMMONYX LO is cleared for use user 40 CFR 180.910, pre- and post-harvest applications.

AMMONYX LO meets DfE screen and is listed on www.cleangredients.org (an on-line database for green formulators). For further information, visit www.cleangredients.org. Additional Stepan ingredient listing can be found at www.stepan.com.

Formulations

CONDITIONING SHAMPOO

Ingredients		Wt, % (as is)	Function
1.	AMPHOSOL® CA	32.8	Cosurfactant
2.	AMMONYX LO	32.0	Cosurfactant
3.	AMMONYX 4	1.7	Conditioning Agent
4.	Preservative, Dye, Fragrance	q.s.	Additives
5.	Citric Acid (50%)	q.s.	pH Adjuster
6.	Distilled Water	q.s. to 100.0	Solvent, Carrier
7.	Sodium Chloride	q.s.	Thickener

Mixing Procedure:

Add AMPHOSOL CA, AMMONYX LO and AMMONYX 4 to water. Heat with mixing to 40-50°C (104-122°F), until AMMONYX 4 is completely blended into solution. Cool to 30-35°C (86-95°F). Add perfume, preservative and dye, as desired. Adjust pH with citric acid to 6.0 - 6.5. Add sodium chloride to achieve desired viscosity. Changing pH changes properties.

Physical Properties:

pH (as is) ..... 6.0 - 6.5
Appearance at 25°C ..... Liquid

GENTLE SHAMPOO

Ingredients		Wt, % (as is)	Function
1.	STEOL® CS-330	30.0	Primary Surfactant
2.	STEPANOL® AM-V	15.0	Secondary Surfactant
3.	AMMONYX LO	1.0	Foam Enhancer/Foam Stabilizer
4.	NINOL® 40-CO	2.0	Foam Enhancer/Viscosity Booster
5.	Glycerin	3.0	Humectant
6.	Methocel E4M (Dow Chemical)	0.4	Thickener
7.	Sodium Chloride	1.0	Thickener
8.	Citric Acid (50%)	q.s.	pH Adjuster
9.	Preservative, Dye, Fragrance	q.s.	Additives
10.	Distilled Water	q.s. to 100.0	Solvent, Carrier

Mixing Procedure:

Heat one third of the required water to 80°C (176°F). Add Methocel E4M and agitate until all particles have been dispersed. Turn off heat and add the remainder of the water. Agitate until the solution is clear and particle free. Add items 1 through 6 and blend until homogeneous. Adjust pH with citric acid to 6.0 - 6.5. Viscosity may be modified by adjusting the sodium chloride content.

Physical Properties:

pH (as is) ..... 6.0 - 6.5
Appearance at 25°C ..... Liquid

Additional Safety Information

A Material Safety Data Sheet is available upon request.

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