

ACID/ALKALI SOLUBILITY

FOR HI&I CLEANING

ACID SOLUBILITY:

Certain industrial cleaning operations require surfactants that exhibit solubility in highly acidic systems. Acid cleaners are used to remove mineral deposits, such as rust and lime, from acid-resistant surfaces. In dairy and food processing, acid cleaners remove milkstone, beerstone, and hard water scale from stainless steel. Acid cleaners are also employed to neutralize any remaining alkali residue from previous alkaline cleaning operations. This sales tool highlights Stepan surfactants that exhibit solubility in 37% hydrochloric acid at 1% active surfactant level.

TYPICAL APPLICATIONS:

- ◆ Bathroom Cleaners
- ◆ Dairy Cleaners
- ◆ Rust Removers
- ◆ Food Processing Cleaners
- ◆ Professional-Strength Toilet Cleaners
- ◆ Soap Scum Removers

ACID SOLUBLE 37% CONCENTRATION HYDROCHLORIC ACID (HCl)

ACCOSOFT® 365	Tallow Polyethoxy Ammonium Methyl Sulfate	BIO-SOFT® N91-8	Linear Alcohol (C9-11) Ethoxylate, POE-6
AMMONYX® CDO SPECIAL	Cocamidopropylamine Oxide	BIO-SOFT® TA-2	Tallow Amine Ethoxylate, POE-2
AMMONYX® CETAC-30	Centrimonium Chloride	CEDEPHOS FA-600	Alkyl Ether Phosphate
AMMONYX® DO	Decylamine Oxide	MAKON® 8	Nonyl Phenol Ethoxylate, POE-8
AMMONYX® LMDO	Lauryl/Myristyl Amidopropylamine Oxide	MAKON® 10	Nonyl Phenol Ethoxylate, POE-10
AMMONYX® LO	Lauramine Oxide	MAKON® 12	Nonyl Phenol Ethoxylate, POE-12
AMMONYX® LO SPECIAL	Lauramine Oxide	MAKON® DA-4	Decyl Alcohol Ethoxylate, POE-4
AMPHOSOL® CA	Cocamidopropyl Betaine	MAKON® DA-6	Decyl Alcohol Ethoxylate, POE-6
BIO-SOFT® EC-600	Lauryl Alcohol (C12) Ethoxylate, POE-7	MAKON® DA-9	Decyl Alcohol Ethoxylate, POE-9
BIO-SOFT® EC-639	Lauryl Alcohol (C12) Ethoxylate, POE-8	MAKON® NF-12	Lauryl Alcohol Alkozylate
BIO-SOFT® EC-690	Lauryl Alcohol (C12) Ethoxylate, POE-7	MAKON® NF-61L	Polyalkylene Glycol
BIO-SOFT® GSB-9	Nonionic Blend	MAKON® OP-9	Octyl Phenol Ethoxylate, POE-9
BIO-SOFT® N1-5	Linear Alcohol (C11) Ethoxylate, POE-5	MAKON® TD-12	Tridecyl Alcohol Ethoxylate, POE-12
BIO-SOFT® N1-7	Linear Alcohol (C11) Ethoxylate, POE-7	MAKON® TD-18	Tridecyl Alcohol Ethoxylate, POE-18
BIO-SOFT® N1-9	Linear Alcohol (C11) Ethoxylate, POE-9	MERPOL® HCS	Alcohol Ethoxylate
BIO-SOFT® N23-6.5	Linear Alcohol (C12-13) Ethoxylate, POE-6.5	NINOL® 1301	PEG-6 Cocamide
BIO-SOFT® N25-7	Linear Alcohol (C12-15) Ethoxylate, POE-7	NINOL® C-5	PEG-6 Cocamide
BIO-SOFT® N25-9	Linear Alcohol (C12-15) Ethoxylate, POE-9	STEPFAC 8170	Nonylphenol POE-10 Phosphate Ester
BIO-SOFT® N91-6	Linear Alcohol (C9-11) Ethoxylate, POE-6	STEOSOL® DG	Cationic/Nonionic Blend

NOTES:

- ◆ Please note that products were only tested based upon solubilization of HCl. Stability testing was not conducted.
- ◆ For surfactants with <37% acid solubility, refer to the **Stepan Product Selector Guide for HI&I Cleaning** at www.stepan.com.
- ◆ All products are stocked at our Joliet, IL packaged warehouse with the exception of ACCOSOFT® 365, BIO-SOFT® EC-600, MAKON® DA-4, MAKON® DA-6, MAKON® DA-9, MAKON® NF-61L, MAKON® TD-12, and MAKON® TD-18.

ACID/ALKALI SOLUBILITY

FOR HI&I CLEANING

ALKALI SOLUBILITY:

Certain industrial cleaning operations require surfactants that exhibit solubility in highly alkaline systems. Alkaline cleaners are used for their ability to degrease and remove tough soils. Products with greater caustic solubility are also suitable in formulations that contain a high level of electrolyte (salt solution). This sales tool highlights Stepan surfactants that exhibit solubility in 10-30% sodium hydroxide at 1% active surfactant level.

TYPICAL APPLICATIONS:

- ◆ Oven Cleaners
- ◆ Heavy Duty Degreasers
- ◆ Floor Strippers
- ◆ Rust Removers
- ◆ “Touchless” Car Wash Detergents
- ◆ Automatic Dishwash Detergents

ALKALI SOLUBLE

20-30% CONCENTRATION SODIUM HYDROXIDE (NaOH)

AMMONYX® CETAC-30	Centrimonium Chloride	AMPHOSOL® CS-50	Cocamidopropyl Hydroxysultaine
AMMONYX® DO	Decylamine Oxide	CEDEPHOS FA-600	Alkyl Ether Phosphate
AMPHOSOL® 2CSF	Disodium Cocoamphodipropionate	STEPANATE® SXS	Sodium Xylene Sulfonate
AMPHOSOL® 810-B	Capryl/Capramidopropyl Betaine		

10-20% CONCENTRATION SODIUM HYDROXIDE (NaOH)

ACCOSOFT® 365	Tallow Polyethoxy Ammonium Methyl Sulfate	BIO-SOFT® N91-8	Linear Alcohol (C9-11) Ethoxylate, POE-6
AMMONYX® CDO SPECIAL	Cocamidopropylamine Oxide	MAKON® 10	Nonyl Phenol Ethoxylate, POE-10
AMMONYX® LMDO	Lauryl/Myristyl Amidopropylamine Oxide	MAKON® 12	Nonyl Phenol Ethoxylate, POE-12
AMMONYX® LO	Lauramine Oxide	MAKON® DA-6	Decyl Alcohol Ethoxylate, POE-6
AMMONYX® LO SPECIAL	Lauramine Oxide	MAKON® DA-9	Decyl Alcohol Ethoxylate, POE-9
AMMONYX® MCO	Myristyl/Cetyl Amine Oxide	MAKON® OP-9	Octyl Phenol Ethoxylate, POE-9
AMMONYX® MO	Myristamine Oxide	MAKON® TD-18	Tridecyl Alcohol Ethoxylate, POE-18
AMPHOSOL® CA	Cocamidopropyl Betaine	NINOL® C-5	PEG-6 Cocamide
AMPHOSOL® CG	Cocamidopropyl Betaine	POLYSTEP® B-29	Sodium Octyl Sulfate
AMPHOSOL® HCG-K	Cocamidopropyl Betaine	POLYSTEP® OPA	Potassium Oleate Sulfonate
BIO-SOFT® EC-600	Lauryl Alcohol (C12) Ethoxylate, POE-7	STEPANATE® SCS	Sodium Cumene Sulfonate
BIO-SOFT® N1-7	Linear Alcohol (C11) Ethoxylate, POE-7	STEPANATE® SCS-40	Sodium Cumene Sulfonate
BIO-SOFT® N1-9	Linear Alcohol (C11) Ethoxylate, POE-9	STEPANATE® STS-40	Sodium Toluene Sulfonate
BIO-SOFT® N23-6.5	Linear Alcohol (C12-13) Ethoxylate, POE-6.5	STEPFAC 8170	Nonylphenol POE-10 Phosphate Ester
BIO-SOFT® N25-7	Linear Alcohol (C12-15) Ethoxylate, POE-7	STEPOSOL® DG	Cationic/Nonionic Blend
BIO-SOFT® N91-6	Linear Alcohol (C9-11) Ethoxylate, POE-6		

NOTES:

- ◆ Please note that products were only tested based upon solubilization of NaOH. Stability testing was not conducted.
- ◆ For surfactants with <10% alkali solubility, refer to the **Stepan Product Selector Guide for HI&I Cleaning** at www.stepan.com.
- ◆ All products are stocked at our Joliet, IL packaged warehouse with the exception of ACCOSOFT® 365, AMPHOSOL® 810-B, AMPHOSOL® HCG-K, BIO-SOFT® EC-600, MAKON® DA-6, MAKON® DA-9, MAKON® TD-18, POLYSTEP® OPA, and STEPANATE® STS-40.

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