



Cola[®]Wet A-100

CTFA/INCI NAME: Disodium ethoxylated nonylphenol half ester of sulfosuccinic acid

CAS No.: 9040-38-4

FDA Status: Approved under 21 CFR 175.105 (no limitations), and under 21 CFR 178.3400 (with limitations)

Regulatory: TSCA, EINECS, AICS, ENCS, ECL, PICS

DESCRIPTION

Cola[®]Wet A-100 surfactant is an excellent primary emulsifier for emulsion polymerization of acrylic, vinyl-acrylic and EVA latexes, especially for high gloss systems. Its unique structure imparts both steric and charge stabilization, leading to systems with very good electrolytic and mechanical stability. It has excellent compatibility with divalent and trivalent cations and quarternary ammonium surface active agents. Its surface modifying properties at low concentrations make it useful as a stabilizer/dispersant in a variety of water-based applications such as resin dispersions, lime soap dispersant, etc. **Cola[®]Wet A-100** is VOC-free.

APPLICATIONS

Cola[®]Wet A-100 surfactant is widely used as a primary emulsifier in acrylic, vinyl-acrylic and EVA latexes, going into the following application areas:

- Adhesives
- Paint Binders
- Textiles/Nonwoven Binders
- Paper Coatings
- Over Print Varnish System

Cola[®]Wet A-100 surfactant is also used as a stabilizer/dispersant in low to medium-HLB resin/pigment systems.

TYPICAL PROPERTIES

Appearance at 25°C (77°F)	Colorless-to-light yellow liquid
Solids, % by weight	33-35
Solvent	Water
Color, APHA, as is, maximum	150
Specific gravity, 25°C	~1.09
Density, lb/gal, 25°C	~9.1
Viscosity, cps, 25°C, Brookfield RVF, No 3 spindle, 50 rpm	~170-190
Freezing point, °C 30% solution ¹	-9 (16°F)
Flash point, °F, Setaflash (closed cup)	>212 (>100°C)
pH, as is	4.5-6.0

Acid number, as is, maximum	10.0
Iodine value, as is, maximum	0.5
Stability in 10% HCl at room temperature	Excellent
Stability in 10% caustic at room temperature	Fair

SURFACE ACTIVE PROPERTIES

Critical Micelle Concentration (CMC), % by weight	0.01 – 0.02
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<u>Concentration, % by weight</u>	<u>Surface tension, 25°C</u>	<u>dynes/cm</u>
0.005		40.3
0.010		36.0
0.110		34.4

Interfacial tension, dynes/cm,
25°C, 0.1% solution against mineral oil, after 5 minutes 7.2

Ross Miles Foam Test
0.5% solution, 25°C, mL
Initial 275
15 Minute 130

ADVANTAGES OF COLA®WET A-100 SURFACTANT IN EMULSION POLYMERIZATION

- Very effective in producing latexes with very low particle size and narrow PSD for high-gloss systems, at low usage levels.
- Can produce high solids latex (50% +) at manageable viscosity.
- Provides latexes with good mechanical and electrolyte stability and very low coagulum levels.
- Latexes form clear and continuous films with good resistance to moisture and yellowing on heating, especially in comparison to sulfates and sulfonates in vinyl-acrylic systems.
- In combination with [Cola®Wet MA-80](#) or [Cola®Wet TDS-35](#) surfactants, gives latexes with excellent adhesion.

ELECTROLYTE TOLERANCE

Ca(NO ₃) ₂ · 4H ₂ O	Excellent
MgSO ₄ (anhydrous)	Excellent
AlCl ₃ · 8H ₂ O	Very good
Ba(OH) ₂ · 8H ₂ O	Good
FeCl ₃ · 6H ₂ O	Good

STORAGE AND HANDLING

Cola[®]Wet A-100 surfactant should be stored above 60°F (15.5°C) over prolonged periods to prevent gelation. Stainless steel, aluminum and Monel alloy are recommended for reaction and storage vessels; glass and rubber are suitable lining materials.

The efficacy of **Cola[®]Wet A-100** surfactant is not impaired by freezing or thawing. However, if a freeze-thaw cycle occurs, it is recommended that the entire contents of the container be agitated prior to use.

LAST UPDATED 09/07/2008

WARRANTY

Colonial Chemical guarantees that its products meet published specifications. No other warranties or guarantees are expressed or implied because the use of this material is beyond the control of Colonial Chemical.

Colonial Chemical, Inc.

www.colonialchem.com

225 Colonial Drive
South Pittsburg, TN 37380

Ph: 423-837-8800
Fax: 423-837-3888

