

## AEROSOL® LF4 surfactant

**Type:** Anionic

**Chemical:** Proprietary sulfosuccinate blend

**Molecular weight:** 400 (average)

AEROSOL LF-4 is a wetting & leveling agent, dispersant and emulsifier specially designed for coatings, e.g. over print varnishes (OPV), pressure sensitive adhesives (PSA) that require good dynamic wetting and levelling performance coupled with low & unstable foam. It is also a very good co-emulsifier for producing latexes requiring low surface tension for applications such as adhesives, paint binders, printing ink binders, floor polish systems, etc.

### Surface Active Properties

Critical Micelle

Concentration (CMC) 0.02

Surface tension @cmc 24 dynes/cm

Wetting time

(Draves Test) 1 sec (1% aq. soln.)

### Foam Test - Ross Miles (1.0% aq. soln.)

Time: 0 min. 60 secs.

Foam vol.(ml) 180 0

### Equilibrium Surface Tension ((0.5% aq. soln.)

AEROSOL LF4 24 dyn/cm

AEROSOL OT 26 dyn/cm

### Dynamic Surface Tension (Dyn/Cm; 1% aq. soln.)

3 B/s 6B/s

AEROSOL LF4 28 30

AEROSOL OT 27 29

*NOTE: A bubble tensiometer was used to generate this data. B/s is bubbles/second. A higher B/s number translates to faster coating speeds.*

### Applications in Emulsion Polymerization

- Produces latexes with very low surface tension suitable for adhesives, paints, inks & other coatings
- Reduces or eliminates the need for post-added wetting and leveling agents in the final formulation
- Very effective in producing latexes with very low particle size and narrow particle size distribution (PSD) for high-gloss systems, at low usage levels
- Can produce high solids latexes at manageable viscosity
- Provides latexes with good mechanical and electrolyte stability and very low coagulum levels
- Produces latexes with lower foam than other surfactants (sulfates, sulfonates and other sulfosuccinates)
- In combination with AEROSOL A-102 or AEROSOL 22 surfactants gives latexes with excellent adhesion properties

### Applications as a Post-Add

#### Printing Ink / Overprint Varnish Systems

Improved Wetting and leveling. Improved adhesion, gloss and color resolution.

#### Textile And Paper

Excellent wetting and leveling. Can control penetration with usage level.

#### Adhesive Systems

Improved adhesion due to better wetting. Used in both adhesive formulations and to precoat substrates.

#### Paint Systems

Improved wetting and leveling on difficult-to-wet substrates. Better penetration and adhesion.

#### Coatings On Hydrophobic Substrates

Improved adhesion due to deeper equilibrium wetting.

## Physical and Chemical Properties

Type	Anionic
Chemical	Proprietary blend
Appearance	Viscous liquid
Solids, % by weight	80 ±3
Color, APHA, maximum (50% solids in 1-1 Alcohol-water)	50
Specific gravity, 25°C	1.08-1.1
Viscosity, cps @ 25°C	300 - 600 cps
Flash Point °C	>43, 110°F
pH, 10% solution	5-7.5
Acid number, as is	2.0 max.
Iodine value, as is	0.5 max.
Solubility-Organic polar solvents	Excellent
Solubility-Organic nonpolar solvents	Good
Acetone	soluble
Benzene	soluble
Carbon tetrachloride	soluble
Ethanol	soluble
2-ethyl hexanol	soluble
Isopropanol	soluble
Kerosene	soluble
MEK	soluble
Oleic acid	soluble
Propylene glycol	soluble

### Electrolyte Tolerance

At 0.05% solids: >2250 ppm Calcium tolerance

At 0.5% solids : >2250 ppm Calcium tolerance

## Health and Safety Information

Before handling this material, read the corresponding Cytec Industries Inc. Material Safety Data Sheet for safety, health and environmental data.

Based on toxicity tests, AEROSOL LF4 surfactant is not expected to present any significant hazards to health in ordinary industrial handling. Direct contact with this material may cause moderate eye and mild skin irritation.

## Storage and Handling

AEROSOL LF4 surfactant should be stored above 41°F (5°C) over prolonged periods to prevent gelation.

AEROSOL LF4 surfactant may be stored and used in a wide variety of containers or reaction vessels. Stainless steel, aluminum and Monel alloy are recommended for reaction and storage vessels; glass and rubber are suitable lining materials. Some of the sprayed resinous coatings are satisfactory in stationary tanks in which the coating can be built more heavily than is customary in drums. In permanent installations, however, the added expense of aluminum, stainless steel or clad-steel is frequently justified.

The efficacy of AEROSOL LF4 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.

## Regulatory Information

This product is manufactured in compliance with all provisions of the Toxic Substance Control Act, 15. U.S.C. (TSCA). All components of this product are included on the European Inventory of Existing Chemical Substances (EINECS), the Australian Inventory of Chemical Substances (AICS), the Japan Inventory (ENCS), the Korea Inventory (ECL), and the Philippines (PICS) Inventory.

## Shelf Life

This surfactant has a recommended shelf life of 6 months for optimal wetting and low-foam performance.

## Technical Assistance

Latex recipes with Aerosol LF4 for paint binders, PSA's, industrial coatings, floor polish systems, etc. can be obtained by contacting Technical Service or through your local sales representative.

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• Email: [custinfo@cytec.com](mailto:custinfo@cytec.com)   Worldwide Contact Info: [www.cytec.com](http://www.cytec.com)   US Toll Free 800-652-6013   Tel 973-357-3193 •

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