

**Technical Bulletin****SURFONIC<sup>®</sup> LF-18 Surfactant****PRODUCT DESCRIPTION**

SURFONIC<sup>®</sup> LF-18 surfactant is an alkoxyated alcohol. This product is useful in many low foam applications such as rinse aids and mechanical dishwash formulations. SURFONIC<sup>®</sup> LF-18 surfactant is also useful in formulating metal cleaning agents, semi-synthetic metalworking fluids, low foam acid cleaners and agricultural adjuvants. The product is dispersible in water and soluble in many organic solvents.

**APPLICATIONS**

- wetting agents
- degreasers
- dispersants
- detergents
- emulsifiers
- rinse aids

**SALES SPECIFICATIONS**

<u>Property</u>	<u>Specifications</u>	<u>Test Method*</u>
Appearance	Clear to slightly hazy liquid, substantially free of foreign matter	ST-30.1
Cloud point, °C (1% Aqueous)	14 - 20	ST-9.1, 5.2.1
Color, Pt-Co	100 max.	ST-30.12
pH, 5% in 10:6 IPA:water	5.5 - 7.5	ST-31.36, F
Water, wt%	0.5 max.	ST-31.53

\*Methods of Test are available from Huntsman Corporation upon request.

**TYPICAL PROPERTIES****Chemical Properties**

HLB Value	11.9
Water Solubility	Dispersible

**Regulatory Information**

DOT/TDG Classification	Not Regulated
HMIS Code	1-1-0
CAS Number	68987-81-5
TSCA Inventory	Yes
WHMIS Classification	D2B
Canadian DSL	Yes

**Physical Properties**

Flash point, PMCC, °F	365
Flash point, PMCC, °C	185
Pour point, °F	20
Pour point, °C	-6
Density, g/ml at 25°C (77°F)	1.013
Weight, lbs/US gal at 25°C (77°F)	8.45
Viscosity, kinematic cSt at 25°C (77°F)	240

**Solubility Data**

Water	Dispersible
Aromatic solvents	Soluble
Alcohols and Glycol Ethers	Soluble
Paraffinic Solvents	Insoluble

**TOXICITY AND SAFETY**

For information on the toxicity and safe handling of this product, please read the Material Safety Data Sheet prior to use of the product.

**HANDLING AND STORAGE**

SURFONIC LF-18 surfactant may be satisfactorily stored in carbon steel tanks using steel pipes and pumps. Caution must be exercised, however, to keep the material in the anhydrous state to prevent severe corrosion to the carbon steel tank and related equipment. A drier on the breathing nozzle is recommended to help maintain anhydrous conditions in the storage tank.

For longer term color stability, it is recommended that the product be stored under an inert atmosphere. Solid sediment may form upon standing. There should be circulation in the storage vessel to keep solids suspended.

Low pressure steam coils in storage tanks and steam tracing of transfer lines should be provided in cases where low environmental temperatures may make pumping of the product difficult.

**SHIPPING DATA**

Product is available in tank cars, tank trucks and drums of 440 pounds (199 kilograms) net weight. Small samples are available by contacting our sample department at 1-800-662-0924.

**BIODEGRADABILITY AND ENVIRONMENTAL SAFETY**

The SURFONIC LF-series products are considered to be biodegradable; however, the rate of biodegradation is retarded because of the polyoxypropylene chain in the products. Removal of organic carbon reached 40% after 71-85 days in a laboratory activated sludge study.

The SURFONIC LF surfactants are expected to exhibit aquatic toxicity similar to or less than that of alcohol ethoxylates. Study of a low foam surfactant similar to SURFONIC LF-17 surfactant shows it to be much less toxic to aquatic life than alcohol ethoxylates (water flea, LC<sub>50</sub>, 72 ppm; fathead minnow, LC<sub>50</sub>, 13 ppm).

General References

1. Journal of the American Oil Chemists' Society, Volume 65, No. 10, p. 1669 (1988).
2. Talmage, S. S., Environmental and Human Safety of Major Surfactants: Alcohol Ethoxylates and Alkylphenol Ethoxylates, a report to the Soap and Detergent Association, Lewis Publishers, 1994.

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