DeTERIC LP

DeTERIC LP, sodium lauriminodipropionate, CAS# 14960-06-6, is a versatile, high foaming amphoteric surfactant which finds use in a wide variety of HI&I cleaning formulations. Due to its mildness, it’s also well suited for Personal Care applications. DeTERIC LP is readily biodegradable and exhibits low toxicity. INCI Name: Sodium Lauriminodipropionate

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Appearance @ 25°C</td>
<td>Light yellow liquid</td>
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<tr>
<td>% Solids</td>
<td>29.0 – 31.0</td>
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<tr>
<td>pH (as-is)</td>
<td>7.0 +/- 1.0</td>
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<tr>
<td>Color (Gardner)</td>
<td>3.0 max.</td>
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SOLUBILITY DeTERIC LP is soluble in water, glycols and alcohols; insoluble in oils and solvents.

TYPICAL PROPERTIES

- Excellent hydro trope & solubilizing properties
- Wetting, emulsification, & detergency
- High foaming properties
- Excellent stability in strong alkali, acid, & high concentrations of electrolytes
- Solutions in the isoelectric range (pH ~2.4 - 4.2) may not be clear, but will maintain high foaming properties & fast wetting
- Compatible with anionic, cationic & nonionic surfactants
- Brine Stability
- Hard water stability
- Approved for use as inert in non-food pesticide formulations
- Approved for food use as inert under 40CFR180.910, 920, & 930
- Low skin & eye irritation
- Low toxicity & readily biodegradable
- Exhibits corrosion protection in hard water and strong acids

APPLICATIONS

- High foaming food plant cleaners
- High caustic & alkaline cleaners
- High alkaline oven cleaners
- Strong acid cleaners
- Emulsifier for vinyl acetate/ethyl acrylate & vinyl chloride systems
- All purpose, hard surface cleaners
- Aerosol cleaners
- Foaming agent in oil drilling
- Fire fighting foam
- High foam car & truck wash
- Hand dishwashing detergents
- Mild personal care cleansers
- Solubilizer for quaternary & halogenated germicides

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Hydrotrope Properties of DeTERIC LP

DeTERIC LP is the superior hydrotrope when compared to other high foaming amphoteric surfactants in several electrolytic systems. To determine hydrotrope capabilities, a series of cloud point tests were performed with 3% NPE-9 and 2.5% hydrotrope in the electrolytes listed below.

The higher the cloud point temperature, the more efficient the hydrotrope.

![Hydrotrope Cloud Point, °C](chart.png)

Hydrotrope Cloud Point, °C
3% NPE-9, 2.5% Hydrotrope (by weight), in 94.5% Electrolyte Solution

- 5% NaOH
- 10% NaOH
- 10% SMP
- 10% TKPP

- DeTERIC LP: Sodium Lauriminodipropionate
- Sodium Decyloxypropyl-3-iminodipropionate
- No Hydrotrope
- DeTERIC CP-Na-38: Modified Propionate
- Disodium Cocoamphodipropionate

> 100°C

Continued
Corrosion Inhibition Properties of DeTERIC LP

ACID CORROSION PROTECTION: Metal panels were submerged in the acid solutions and placed in sealed jars at room temperature and observed for signs of corrosion.

Cold-Rolled Steel

5% active Hydrochloric Acid, 72 hours

Control, no inhibitor  DeTERIC LP, 1% by wt.

5% active Sulfuric Acid, 72 hours

Control, no inhibitor  DeTERIC LP, 1% by wt.

HARD WATER CORROSION PROTECTION: Metal panels were submerged in hard water (100 ppm as CaCO₃ and 71 ppm as chloride) in sealed jars at room temperature and observed for signs of corrosion over time. The following photos were taken at 72 hours.

Cold-Rolled Steel, 72 hours  Aluminum, 72 hours

Control, no inhibitor  DeTERIC LP, 0.5%by wt.  Control, no inhibitor  DeTERIC LP, 0.5% by wt.

Metal Panels:

Steel Panels: Q-Panel – Type RS – low carbon, cold-rolled steel, 0.063" thick, ½ hard
Aluminum Panels: Q-Panel – Type AR - Alloy 2024T3 bare, 0.063” thick, 120 hardness