

DeTERGE CS-45LF & DeTERGE CS-45LF MOD

DeTERGE CS-45LF & CS-45LF MOD are low foaming, chlorine stable, anionic surfactants for use in products containing up to 15% active caustic and other alkaline electrolytes. Both products are designed for use in alkaline systems only and are not recommended for use in acid systems.

SPECIFICATIONS

DeTERGE CS-45LF

DeTERGE CS-45LF MOD

Appearance @ 25°C:

Clear almost colorless liquid

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pH (5% in DI water):

9.0 – 11.0

6.0 – 7.0

% Activity:

43 +/- 1.5%

43+/-1.0%

Color (Gardner):

1 max.

1 max

SOLUBILITY (at 10% by weight): Soluble in water, alcohols and glycols and insoluble/dispersible in most solvents.

TYPICAL PROPERTIES

Density @ 25°C

~1.06 g/ml

- | | |
|---|---|
| <ul style="list-style-type: none"> • Chlorine stable • Very low foaming (low flash foam) • Emulsifier • Hydrotrope • Good detergency & wetting | <ul style="list-style-type: none"> • Dispersant • Biodegradable • Hard water stable • Excellent caustic & alkaline electrolyte stability • Cloud point >90°C @ 1% by weight in DI water |
|---|---|

APPLICATIONS

- Alkaline, low foaming, automatic dishwashing detergents
- Highly alkaline food plant cleaners
- Chlorine containing cleaners
- Primary surfactant or hydrotrope in low foaming alkaline cleaners
- Stable for use in dry caustic formulations
- Industrial laundry detergents
- Metalworking fluids

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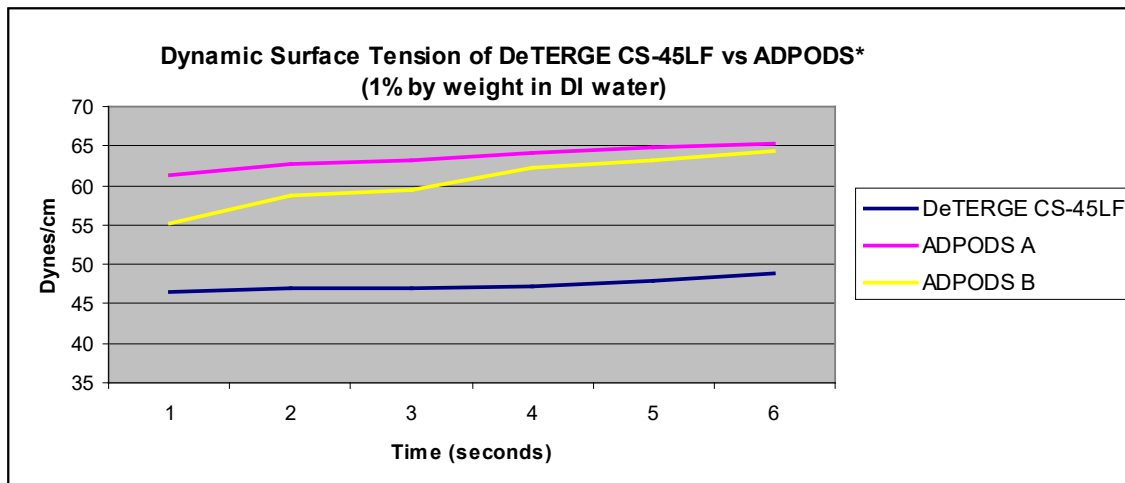
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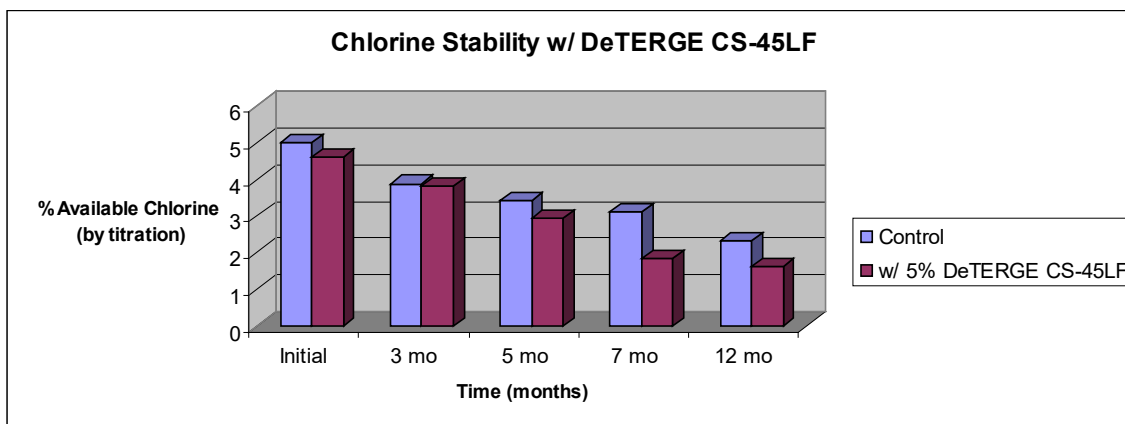
DYNAMIC SURFACE TENSION of DeTERGE CS-45LF

The graph below depicts the dynamic surface tension of 1% by weight DeTERGE CS-45LF in deionized water compared to alkyldiphenyloxide disulfonates surfactants.



CHLORINE STABILITY

The stability of sodium hypochlorite in the presence of 5% by weight DeTERGE CS-45LF was determined by quantitative analysis. Solutions were stored at ambient temperature and the percent available chlorine was determined over the course of 12 months.



Control: 45% Tap water, 45% sodium hypochlorite (12.5% active), 10% NaOH (50% active)

Test Formulation: 45% Tap water, 42.5% sodium hypochlorite (12.5% active), 10% NaOH (50% active), 5% DeTERGE CS-45LF

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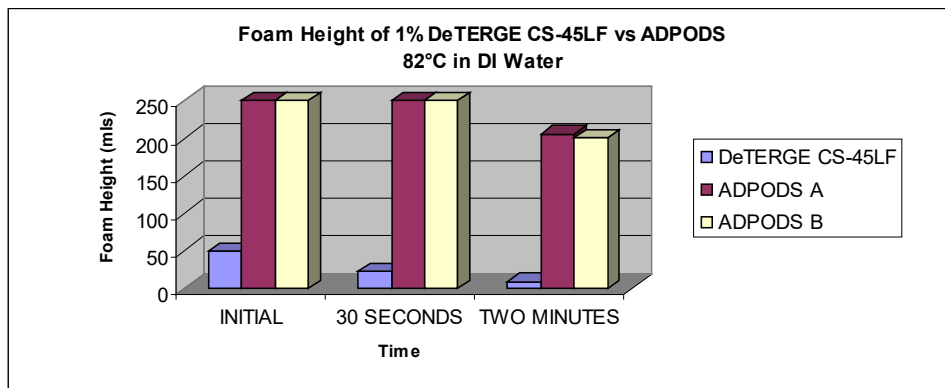
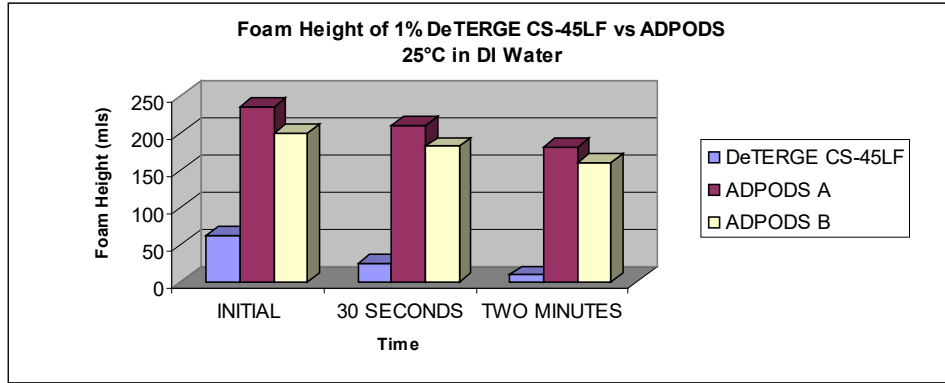
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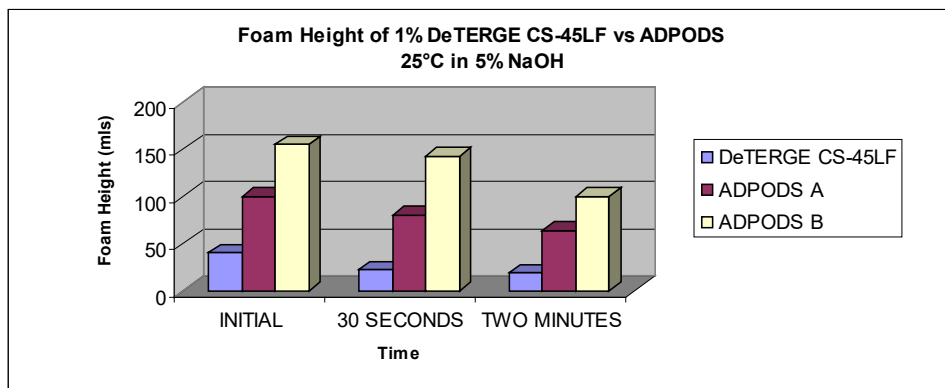
DeTERGE CS-45LF FOAM HEIGHT DATA (continued)

Foam height comparisons were made by modified Ross-Miles graduated cylinder shake test using 1% by weight surfactant in deionized water, 5% NaOH, and 5% KOH under the conditions noted below.

Foam Height in Deionized Water



Foam Height in 5% Active NaOH



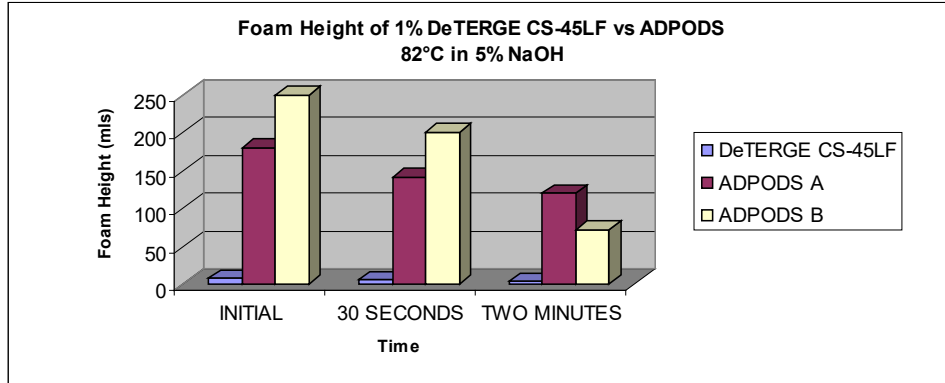
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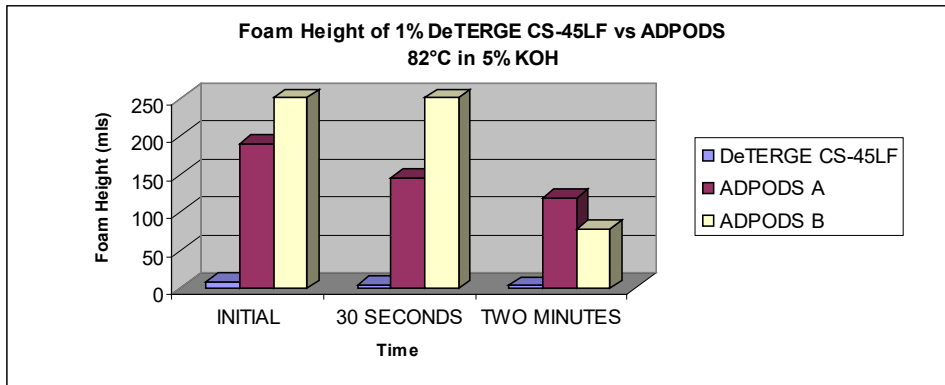
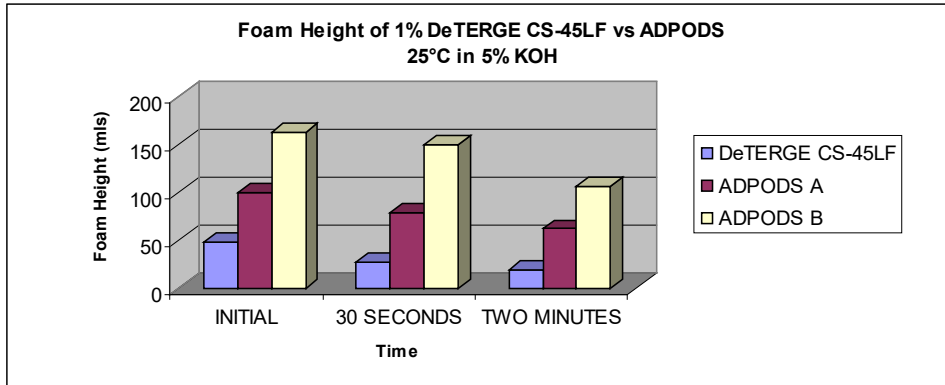
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DeTERGE CS-45LF FOAM HEIGHT DATA

Foam Height in 5% Active NaOH



Foam Height in 5% Active KOH



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