



Clear Solutions USA

CLEAR SOL LLR

Technical Data Sheet

LOW FOAM SURFACTANT SYSTEM FOR STRONG CAUSTIC & ACID SOLUTIONS

DESCRIPTION

Clearsol LLR is a very low foaming surfactant system which is readily soluble in 50% Caustic Soda solutions without the need for prolonged mixing or heating. In addition it is also stable in mineral acids including hydrochloric, phosphoric and nitric acids. This brand new, patented technology exhibits the following attributes when formulated at a 300 ppm use level into final working solutions:

- Extremely low surface tensions of 19 dynes/cm or lower depending on formulation. Provides the lowest known surface tension properties from a commercially available surfactant system to 50% Caustic Soda solutions and their use dilutions.
- Quick dynamic surface tension lowering resulting in fast wetting and spreading on various hydrophobic substrates.
- Extremely low foam properties making this product suitable for many industrial cleaning processes.
- Soluble in 50% NaOH, 45% KOH, 25% HCl, 20% HNO₃, and 85% H₃PO₄.
- Does NOT contain any California Proposition 65 listed chemicals.
- Can reduce either the NaOH consumption or the cleaning cycle time by as much as 50%.
- Light color with minimal odor.
- Applications include food, brewery, draft beer lines, dairy, poultry, egg, car & truck, strong caustic or acidic cleaners. Also includes paint and coating strippers, oil field and pulp & paper applications.

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FORMULATION TIPS

For best results Clearsol LLR should be formulated at a use level of **300 ppm** (or 0.030% by weight) use level in the cleaner's final working solution. For example, if a 50% Caustic Soda-Based Cleaner Concentrate is designed to be diluted to a 3% active sodium hydroxide level (which would indicate a 6% solution of 50% sodium hydroxide in water) then 0.5% Clearsol LLR would need to be added to the Caustic Soda-Based Cleaner Concentrate in order to have a 300 ppm (Or 0.030% by weight) level of Clearsol LLR in the final 6% by weight use dilution with water (or 3% active NaOH working solution).

SPECIFICATIONS

Appearance	Clear, light amber liquid
Odor	Bland odor
Solids (Actives) %	41 – 44
Specific Gravity	1.080 – 1.180
pH (as is)	8.0 – 10.0

PERFORMANCE PROPERTIES

Surface Tension, 300 ppm Clearsol LLR in 3% NaOH	19.44 dynes/cm
Ross Miles Foam Tests, 0.1% Clearsol LLR in 1% NaOH	3 mm foam (0 mm in < 5 seconds)

STANDARD PACKAGING

Clearsol LLR is available in 55-gallon drums and bulk packaging.

SHELF LIFE

Clearsol LLR has a shelf life of 2 years.