

## DeIONIC LF-EP-25

**DeIONIC LF-EP-25** is a low foaming, nonionic alkoxyated alcohol having a cloud point in water of ~25°C. It has the second lowest cloud point in a series of DeFOREST alkoxyates with cloud points ranging from 15°C to 61°C.

### SPECIFICATIONS

|                               |  |
|-------------------------------|--|
| Appearance @ 25°C:            | Almost colorless, clear to hazy liquid |
| pH (5% in DI water):          | 5.0 -9.0                               |
| Cloud Point (1% in DI water): | 23° - 27°C                             |
| Color (Gardner):              | 1 max.                                 |
| % Moisture:                   | 1.0% max.                              |

**SOLUBILITY** DeIONIC LF-EP-25 is soluble in alcohols, glycols, and solvents. It is water soluble below its cloud point and dispersible above its cloud point (23°-27°C). It is insoluble in oils.

### TYPICAL PROPERTIES

|                  |  |
|------------------|--|
| % Activity       | 99% min.   |
| HLB (calculated) | ~7.0   |
| Density @ 25°C   | ~0.99 g/ml   |
| VOC:             | 4.6 grams/liter (ASTM E1868-10 / SCAQMD RULE 1144) |

- Very low foaming
- Good wetting & detergency
- Liquid handling at cold temperatures
- Non-gelling in water
- Excellent rinsability
- Acid stable
- Alkali and electrolyte stable
- Stable on dry caustic
- Biodegradable
- Approved for use as inert in non-food pesticide formulations and under 40CFR180.910 & 180.930

### APPLICATIONS

- Machine dishwashing detergents
- Rinse aid formulations
- Alkaline powdered detergents
- Liquid alkaline detergents
- Industrial metal cleaners
- Pesticide formulations
- High pressure spray cleaners
- Dry caustic and electrolyte cleaners
- Bottle washing
- Laundry detergents
- Acid cleaners
- Metal working fluids

*Continued*

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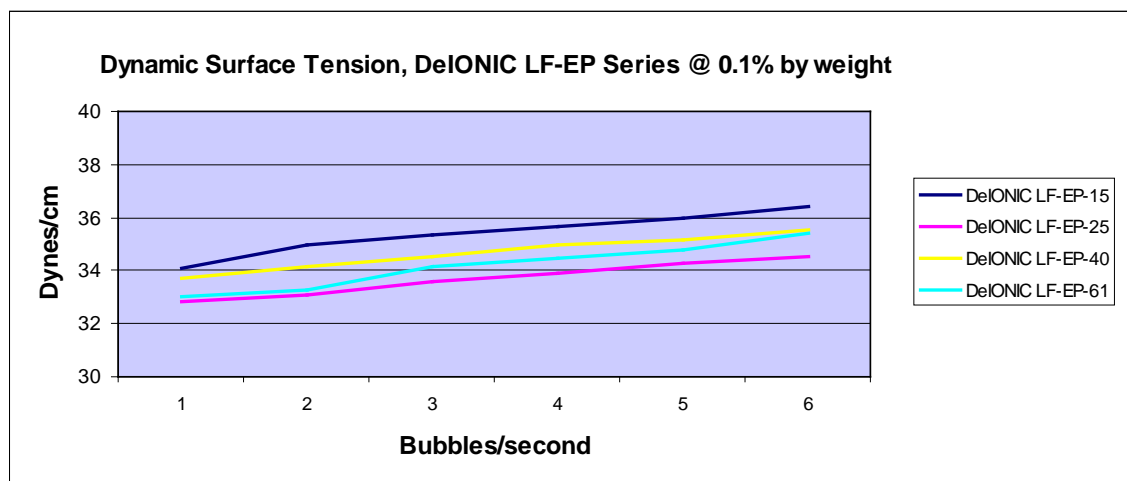
### Modified Ross-Miles Foam Height

The foam height of **DeIONIC LF-EP-25** was determined at ambient temperature at 0.1% by weight in deionized water using a modified Ross-Miles graduated cylinder shake test. It exhibits very low foam compared to others in the DeIONIC LF-EP series with an initial foam height of only 15 mls.

|                   | DeIONIC LF-EP-15 | DeIONIC LF-EP-25 | DeIONIC LF-EP-40 | DeIONIC LF-EP-61 |
|-------------------|------------------|------------------|------------------|------------------|
| <b>Initial</b>    | 10               | 15               | 86               | 90               |
| <b>30 seconds</b> | 0                | 1                | 43               | 55               |
| <b>60 seconds</b> | 0                | 0                | 15               | 45               |
| <b>2 minutes</b>  | 0                | 0                | 7                | 40               |

### Dynamic Surface Tension of DeIONIC LF-EP Series

The dynamic surface tension of the DeIONIC LF-EP series of products was determined at 0.1% by weight in deionized water at ambient temperature.



### Draves Wetting of DeIONIC LF-EP Series

Draves Wetting was determined at 0.1% by weight in deionized water at ambient temperature.

|                | DeIONIC LF-EP-15 | DeIONIC LF-EP-25 | DeIONIC LF-EP-40 | DeIONIC LF-EP-61 |
|----------------|------------------|------------------|------------------|------------------|
| <b>Seconds</b> | 5                | 7                | 8                | 7                |