

## Technical Information

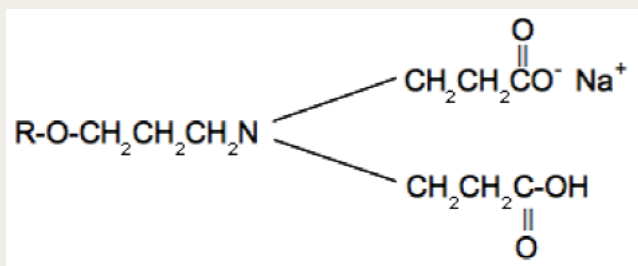
# Tomamine® Amphoteric 12 Surfactant

## Nonionic Wetting Agent and Grind Aid

### Description

Tomamine® Amphoteric 12 surfactant is a biodegradable, low foaming, hydrotrope surfactant, designed for use in alkaline or acid cleaning formulations where the solubility of surfactants in high electrolyte content or water hardness is problematic. It is compatible with most anionic, nonionic, and cationic surfactants.

In addition to low foaming and good biodegradability, it can provide exceptional coupling stability, wetting and detergency in a wide range of formulations. The multifunctionality and high-efficiency of Tomamine® Amphoteric 12 surfactant makes it an ideal replacement for sodium xylene sulfonate.



### Applications

- Low foam alkaline and acid cleaners
- Food processing cleaners
- Metal and parts cleaners
- Clean-in-place and spray detergents
- Carpet cleaners
- Auto dish cleaners
- Transportation cleaners

### Advantages

- Biodegradable
- Exceptional coupling efficiency
- Low foam
- Excellent stability in caustic, acid and concentrated electrolytes
- Improves detergency

### Typical properties

Specific Gravity at 25°C	1.11
Active, %	35
Gardner color, max	7
Flash point, °F	>212
Pour point, °F	26
Critical micelle concentration, %	0.015
Surface tension @ 0.1% (dynes/cm) in 2% NaOH	26

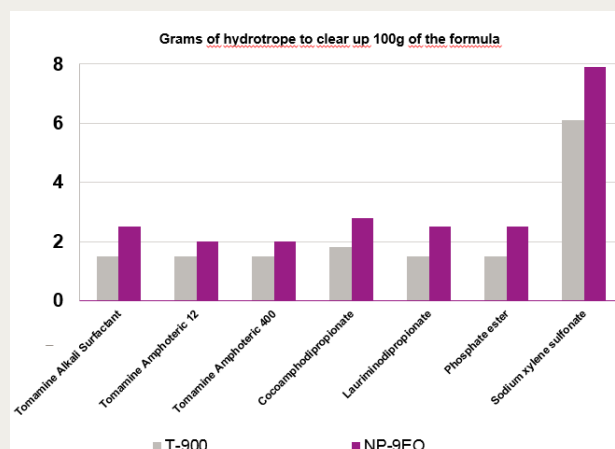
### Ecological Information

Data indicates eligibility for direct release  
 Biodegradability: 67% in 28 days, OECD 301F  
 Daphnia magna (48-h EC50) = 33 mg/L

### Figure 1: Coupling Efficiency

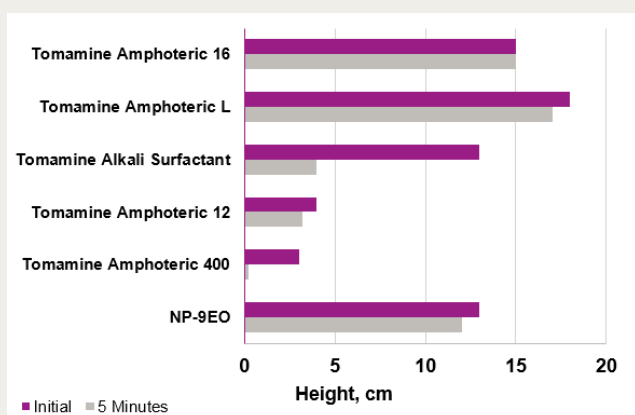
#### Efficiency of hydrotrope to couple an alkaline formulation

Conditions: 2% Tomadol® 900 surfactant or NP-9EO, 2% Sodium gluconate, 20% Potassium hydroxide (45% active), 20% Sodium silicate 3.22/1



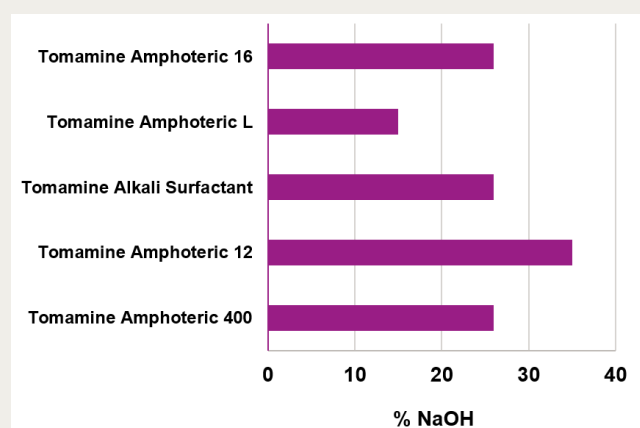
**Figure 2: Ross–Miles Foam**

0.1% actives; 150ppm hardness @ 25°C



**Figure 3: Caustic Solubility**

1.0% active; 0ppm hardness @ 25°C



### Storage and Handling

Please refer to Material Safety Data Sheet.

### Shelf-Life

24 months from the date of manufacture.

**Table 1: Amphoteric 12 Starting Formulation**

Metal or Parts Degreaser

### Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicity and ecological effects

is given in our material safety data sheets.

06/2017

### For Technical Information, Support and Samples:

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