

## Product Specification

## TOMAMINE® Alkali Surfactant – Dipropionate Amphoteric

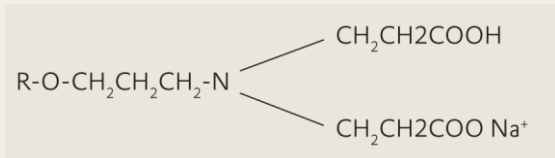
## Description

TOMAMINE® Alkali Surfactant is a unique dipropionate amphoteric used extensively in alkaline and acid cleaning formulations. It provides superior hydrotroping, wetting and detergent characteristics. Unlike many conventional hydrotropes, TOMAMINE® Alkali Surfactant also contributes to soil removal.

Formulators can use this multi-functional benefit to improve cleaning performance, or to reduce the concentration of other detergents, in their cleaning products.

TOMAMINE® Alkali Surfactant is a moderate foamer, is compatible with anionic surfactants, non-ionic surfactants, and cationic surfactants. It is exceptionally stable in alkali, acids, and highly concentrated electrolytes.

TOMAMINE® Alkali Surfactant is represented by the formula:



## Advantages

TOMAMINE® Alkali Surfactant is represented by the formula:

- Exceptional stability in alkaline, acid and highly concentrated electrolytes
- Tremendous coupling agent for non-ionics
- Improves detergency
- Compatible with anionics, cationics, and non-ionics
- Moderate foam
- Excellent wetting
- Increased substantivity in the Zwitter-ionic range
- (typically pH 2-4)

## Applications

- High caustic / high electrolyte industrial cleaners
- Household and institutional cleaners
- Heavy duty degreasers
- Transportation cleaners
- Acid cleaners
- Non-acid aluminum brighteners
- Floor strippers
- Steam cleaners
- Soak tank cleaners

## Electrolyte solubility

5 % surfactant at 72 °F for 24 hours

- 27 % sodium hydroxide
- 35 % potassium hydroxide
- 60 %+ sodium metasilicate pentahydrate

Typical Properties<sup>1</sup>

Active, %	35
Average molecular weight	395
pH (% % solution)	6 - 9
Appearance @ 20 °C	amber liquid
Pour Point, °F	30
Flash Point, °C	> 100
Specific gravity @ 77 °F	1.05
Gardner color, max.	7

**Table 1: Surface Tension Data**

The following chart shows surface tension data generated via a Kruss tensiometer. All recordings were taken in a solution of 2 % NaOH.

Product	CMC (%)	Surface Tension @ 0.1 %	Surface Tension Minimum (dynes/cm)
TOMAMINE® Alkali Surfactant	0.30	37	27
TOMAMINE® Amphoteric 400	2.00	65	41
TOMAMINE® Amphoteric N	0.30	38	36
TOMAMINE® Amphoteric L	0.01	33	33

**Table 2: Ross-Miles Foam Height**

Conditions: 25 °C, 0.1 % active, pH neutral

Surfactant	Water Hardness: 150 ppm			Water Hardness: 300 ppm		
	Foam (cm) initial	Foam (cm) 5 minutes	Stability (Vol. %)	Foam (cm) initial	Foam (cm) 5 minutes	Stability (Vol. %)
TOMAMINE® Amphoteric 400	2.6	0.0	0.0	2.0	0.0	0.0
TOMAMINE® Amphoteric L	17.8	17.6	98.9	17.7	17.5	98.9
TOMAMINE® Amphoteric N	18.0	18.0	100.0	16.5	16.5	100.0
TOMAMINE® Amphoteric SC	18.3	18.3	100.0	17.4	17.4	100.0
Nonylphenol 9 EO	12.7	11.6	91.3	12.0	11.1	92.5
Alcohol Sulfate	12.8	12.7	99.2	10.4	6.1	58.7

### 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.

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