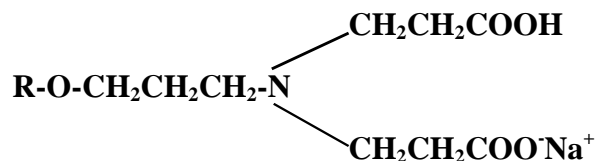


ALKALI SURFACTANT NM

Alkali Surfactant NM is a unique 35% active amphoteric. Alkali Surfactant is used extensively in alkaline cleaning formulations due to its superior coupling and wetting capabilities.

Alkali Surfactant is represented by the formula:



SPECIFICATIONS

Activity, %	35 min.
Color, Gardner	7 max.
pH, 5% solution	6.6-9
Appearance	Clear

TYPICAL PROPERTIES

Specific Gravity, 77°F	1.05
Color and Form	Light amber liquid
Flash Point of (PMCC)	>200
Pour Point, of	30
Molecular Weight	395

PERFORMANCE PROPERTIES

- ◆ Tremendous coupling agent for nonionics
- ◆ Moderate foam
- ◆ Excellent wetting
- ◆ Compatible with anionics, cationics, and nonionics
- ◆ Excellent stability in alkali, acids, and highly concentrated electrolytes
- ◆ Exceptionally P.U.R.E. - far fewer by-products than imidazoline amphoterics
- ◆ Increased substantivity within the Zwitterionic range (typically pH 2-4)

ALKALI SURFACTANT NM

Electrolyte Solubility:	(5% surfactant at 72°F for 24 hours.)
in NaOH	27%
in KOH	35%
in sodium metasilicate pentahydrate	60%+

AMPHOTERIC DATA

Wetting

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. The following parameters were obtained from the wetting curves:

CMC (critical micelle concentration)
 Surface tension at 0.1% concentration
 Minimum surface tension

Product	CMC	S.T. @ 0.1%	Min. S.T.
Alkali Surfactant	0.30%	37 dynes	27 dynes
Amphoteric 400	2.00%	65 dynes	41 dynes
Amphoteric N	0.30%	38 dynes	36 dynes
Amphoteric L	0.01%	33 dynes	33 dynes

DRAVES (Conc. required for 25 second wetting time at 20°C)
 Ethoxylated (9.5) nonyl phenol 0.05%
 ALKALI SURFACTANT 0.62%

SUGGESTED USES:

- (High caustic / high electrolyte industrial cleaners
 - non acid aluminum brighteners
 - floor strippers
 - steam cleaners
 - heavy duty degreasers
 - soak tank cleaners
- (Transportation cleaners
- (Household and Institutional cleaners
- (Acid cleaners

ALKALI SURFACTANT NM

PACKAGING

Alkali Surfactant is available in 55 gallon tighthead drums or bulk quantities. NOTE: Refer to Material Safety Data Sheet for D.O.T. Classification and for any additional information.

The suggestions in this publication concerning the application of Tomah products are intended only to illustrate common uses of such products. Because Tomah is not aware of the numerous factors which may affect the use of its products in any particular application, Tomah provides no warranty or representation as to the suitability of its products for any such use, or as to whether any such use may infringe a third party's patent or other proprietary right. Each customer must, on the basis of its own evaluation of those factors, assume sole responsibility for such suitability and any such infringement.

Standard Specifications, although current at the time of publication, are subject to change without notice. For the latest Standard Specifications, contact your Sales Representative.

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ALKALI SURFACTANT NM

AMPHOTERIC FOAM STABILITY

Conditions:

Temperature: 25°C
 Concentration: 0.1% active
 pH: Neutral

Ross-Miles Foam Volume: 0 ppm Water Hardness

Compound	Initial Foam (cm)	Foam (5 min.)	Stability (Vol. %)
Amphoteric-400	3	0	0
Alkali Surfactant	9.5	7.7	81.1
Nonylphenol-9EO	11.8	10.2	86.4
Amphoteric-N	17.5	17	97.1
Amphoteric-SC	17.7	17.5	98.9
Amphoteric-L	18.2	17.1	94
Alcohol Sulfate	19.4	19.4	100

Ross-Miles Foam Volume: 15 ppm Water Hardness

Compound	Initial Foam (cm)	Foam (5 min.)	Stability (Vol. %)
Amphoteric-400	2.6	0	0
Nonylphenol-9EO	12.7	11.6	91.3
C12 Alcohol Sulfate	12.8	12.7	99.2
Alkali Surfactant	13.1	3.8	29
Amphoteric-L	17.8	17.6	98.9
Amphoteric-N	18	18	100
Amphoteric-SC	18.3	18.3	100

Ross-Miles Foam Volume: 300 ppm Water Hardness

Compound	Initial Foam (cm)	Foam (5 min.)	Stability (Vol. %)
Amphoteric-400	2	0	0
Alcohol Sulfate	10.4	6.1	58.7
Nonylphenol-9EO	12	11.1	92.5
Alkali Surfactant	12.1	7.76	64.1
Amphoteric-N	16.5	16.5	100
Amphoteric-SC	17.4	17.4	100
Amphoteric-L	17.7	17.5	98.9