

NON-IONIC SURFACTANTS

Fatty Alcohol Polyethylene Glycol Ether AEO Series

Fatty alcohol ethoxylate series from A-5 to O-25, HLB 7.6 to 17.4, for textile, metal cleaning and fibre oil work.

Overview

This is a fatty alcohol ethoxylate family built on a C12-18 alcohol with 3 to 40 ethylene oxide units. Ten grades are published across three sub-series, A, MOA and O, spanning HLB 7.6 to 17.4. Low HLB grades work as water-in-oil emulsifiers for printing, dyeing and leather; mid grades serve as fibre oil components and defoamers; high HLB grades act as dispersants and levellers for textile printing, dyeing and metal cleaning.

Typical Data

Property	Value
Chemical component	$\text{RO}(\text{CH}_2\text{CH}_2\text{O})_n\text{H}$, R = C12-18, n = 3-40
Appearance	Colourless to brown oil or paste
Quality standard	Q/12HYJXHG 002-2017
Packing	25 kg bag, 100 kg or 200 kg pail
Transport	Non-dangerous goods

Published Grades

Grade	Cloud point	Hydroxyl value mg KOH/g	pH at 25C	HLB	Properties and applications
A-5	-	113-123	-	9.6	Emulsification, W/O emulsifier. Used in printing, dyeing and leather.
A-20	At or above 100	-	6.5 +/- 1	16	Emulsification and lubrication. Stearic acid, paraffin and glass fibre emulsifier, lubricant and dyeing and finishing aid for cotton, linen, wool and silk.
A-40	90-95	-	6.0 +/- 1	17.4	Dispersion and emulsification. Industrial detergent and strong dispersing agent for wool and nitrile blended fabric dyeing.
MOA-3	-	130-170	-	7.6	Emulsification and solubilising. Chemical fibre oil agent, industrial solvent and defoaming agent, W/O emulsification.
MOA-5	-	120-130	-	10	Emulsification and solubilising. Fabric oil and other industrial solubiliser, defoaming agent, W/O emulsification.
MOA-9	68-72	-	6.5 +/- 1	13.2	Washing, penetration and emulsification. Oil emulsifier, liquid detergent and metal cleaner.
O-10	-	100-120	-	10.5	Emulsification, detergency and dispersion. Emulsifies, cleans and disperses mineral oil; raw material for chemical fibre oil agents.
O-20	At or above 100	-	6.5 +/- 1	16.5	Emulsification, dispersion, homogenisation, penetration and solubilising. Natural fibre printing and dyeing agent, glass fibre emulsifier, textile and synthetic fibre auxiliary, metal processing auxiliary.
O-25	At or above 100	-	6.0 +/- 1	16.4	Emulsification, diffusion, cleaning, penetration and dyeing. Printing and dyeing leveller, metal cleaning agent, pesticide penetrant and oil emulsifier.
OS-15	77-83	-	6.5 +/- 1	14.5	Emulsifying, dispersing, washing and wetting. Printing, dyeing and leather homogeniser, metal cleaning agent, mineral oil and electroplating emulsifier.

Use Guide

- Select on HLB: MOA-3 and A-5 for water-in-oil, MOA-9 and OS-15 for washing and penetration, A-20 through A-40 and the O grades for oil-in-water and dispersion.
- Where a cloud point is published, keep the working temperature below it.
- Two grades can be blended to hit an intermediate HLB.
- Supplied in 25 kg bags and 100 or 200 kg pails as non-dangerous goods.

Applications

- Stearic acid, paraffin and glass fibre emulsification
- Cotton, linen, wool and silk dyeing and finishing
- Metal cleaning agents
- Chemical fibre oil formulation
- Wool and nitrile blend fabric dyeing

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