



Flexisurf™ AO-8

Octyl dimethylamine Oxide

Overview

- 40% active Octyl dimethylamine oxide in water
- Characterized by hypochlorite and peroxide stability
- Versatile hydrotrope and surfactant
- Low/controlled foam in freshwater systems, foam booster in brine systems
- Compatible with nonionic, anionic and cationic surfactants
- Enhanced activity in acidic cleaners
- Versatile surfactant for wetting, solubilizing in acid, neutral and alkaline formulations
- FIFRA-Inert Ingredient in non-food pesticides
- INCI Name: Octylamine Oxide
- CAS#2605-78-9/EINECS#607-854-9

Applications

- HI&I Hard surface and CIP cleaners
- Concentrated liquid, low foaming detergent formulations (acid or alkaline)
- Fine fabric detergents
- Hypochlorite, peracid and peroxide based cleaners and surface treatment products
- Textile applications: lubricant, emulsifier, wetting agent and dye dispersant, non-rewetting wetting agent
- Oilfield fracturing fluid/stimulation fluid hydrocarbon/brine foamer ingredient
- Coating bath dispersant for metal oxide film deposition

Technical Information

Flexisurf AO-8 is a versatile surfactant that contributes low/controlled foaming, detergent and solubilizing properties to formulations ranging from acid etchants to high caustic oven cleaners. Effective in acidic, neutral and alkaline solutions, and stable in hypochlorite bleach and peroxide systems, multi-functional AO-8 contributes detergency, ingredient compatibilizing with low/controlled foam activity. While classified as a nonionic surfactant, the activity of Flexisurf AO-8 is enhanced in acid-based formulations for added performance in hard-water and scale dissolving cleaners.

Exceptional low foaming, detergency and compatibilizing properties with compatibility in nonionic, anionic and cationic surfactant solutions suggest a wide range of applications such as in Liquid Detergents, Household and Industrial Cleaners and in Industrial applications such as Mining, Oil Field and Electroplating.

Formulary

Achieving primary biodegradation > 95% in 6 days, Flexisurf AO-8 is an environmentally responsible ingredient for detergents and cleaners. Cost effective, AO-8 replaces conventional hydrotropes and combines the properties of detergency, compatibilizing and dispersing, with hypochlorite and peroxide stability for enhanced performance.

Typical Properties

PROPERTY	VALUE
Appearance	Clear, colorless liquid
Odor	Mild
Ionic character	Nonionic
Water solubility	Soluble
Active content, %	41.0±1.0
Free Amine, %	<1.0
Free Peroxide, %	<0.3
pH (as is)	7.5±1.5
Density@25°C	0.97±0.04
Boiling Point	Approx. 100°C
Flash point	None (aqueous)
Storage	Freeze/thaw stable
Shelf life	12 months

Packaging and Handling

Flexisurf AO-8 is available in:
275 gallon totes (Net Wt. 2250 lbs)
55 gallon plastic drums (Net Wt. 450 lbs)
5 gallon pails (Net Wt. 40 lbs)

Refer to the Safety Data Sheet (SDS) for information on the safe use, handling, and disposal of this product.

DOT Classification: Non-Regulated

Whether you're looking for a replacement product or an ingredient for a specific attribute, give us a call. We can provide assistance based upon your particular formulation requirements and composition; please feel free to contact us.

Please refer to back page for important information

Flexisurf AO-8

Versatile low/controlled foam surfactant

Flexisurf AO-8 is a versatile and widely used surfactant characterized by effective and economical performance with high biodegradability and low aquatic toxicity. Flexisurf AO-8 is a go-to ingredient for demanding and differentiating performance from hard surface cleaners and hypochlorite stable clean-in-place detergents, to oilfield fracturing and stimulation fluids.

Long recognized as a safe biodegradable surfactant (achieving primary biodegradation > 95% in 6 days: Swisher, R.D. "Surfactant Biodegradation" Vol. 18, 2nd Edition, Marcel Dekker, Inc., 1987, pp. 877.), Flexisurf AO-8 is an environmentally responsible ingredient in a range of product formulations.

Characteristics

- **Surface tension reduction**

In the broad class of alkyl surfactants, AO-8 is within range of the best ingredients for surface tension reduction (28 dynes/cm versus 30 dynes/cm for NPE-9).

- **Caustic stability**

Soluble in concentrated alkaline solutions (>20% sodium hydroxide), AO-8 has the advantage over many surfactants with stability in hypochlorite and peroxide bleaches.

- **Coupling**

An effective compatibilizer, AO-8 functions as a coupling agent/hydrotrope for compatibilizing nonionic surfactant/glycol ether containing degreasers, outperforming SXS, an ingredient that detracts from foaming and detergency.

- **Foaming**

Flexisurf AO-8 is a low/controlled foam surfactant useful in hard surface cleaners and high caustic hypochlorite containing clean-in-place formulations. When used in gas well fracturing and stimulation fluids, AO-8 generates stable foam in the presence of brine and hydrocarbons for effective unloading of tight (low permeability) subterranean formations.

Example formulations

Glass and Multi-Surface Cleaner	
Ingredient	Wt. %
Water	to 100
Na ₄ EDTA, 38%	0.1
Flexisurf AO-8	0.4
Glycerin ⁽¹⁾	0.2
Monoethanolamine ⁽²⁾	0.4
Ethylene glycol monoethyl ether ⁽³⁾	0.25
Isopropanol	1.5
Thetawet FS-8050 ⁽⁴⁾	0.1
Dye/Fragrance	q.s.
Ready-to-Use Formulation notes: (1) provides slip for ease of wiping, (2) provides non-streak alkalinity for grease cutting performance, (3) moderates evaporation for streak resistance-consider hexanol or ethylene glycol monobutyl ether as alternative, (4) for fast even wetting of surfaces.	
Thickened Tub&Tile Cleaner with Bleach	
Ingredient	Wt. %
Water	to 100
Hydrochloric acid, 37% ⁽¹⁾	0.1
Carbopol 690 ⁽²⁾	0.5
Flexisurf AO-8	0.2
Potassium hydroxide, 45%	5
Potassium silicate 2:1, 39%	5
Potassium carbonate	5
Sodium hypochlorite, 12.5%	8
Ready-to-Use Charge ingredients in order listed. Sift Carbopol thickener slowly into vortex at ambient temperature and allow to fully wet. Formulation notes: (1) dispersion aid (2) viscosifier for added "cling"	

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