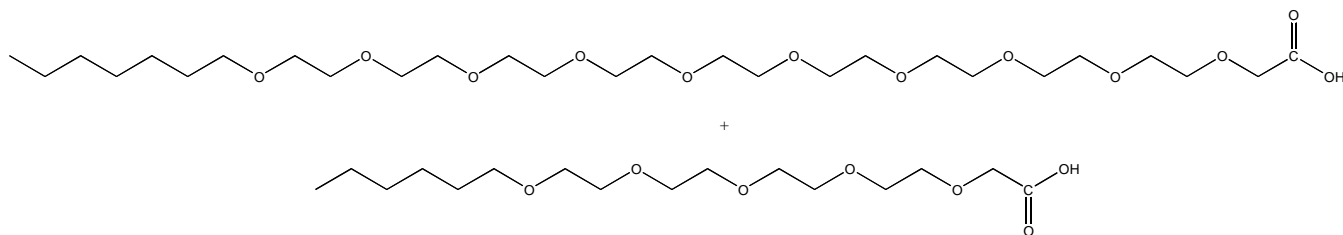


Macat[®] AEC-8964



Hypochlorite Stable Low Foam Surfactant

Overview

MACAT AEC alcohol ether carboxylates are unique multi-functional surfactants with the common attributes of mildness and hypochlorite stability. MACAT AEC-8964 is an 85% active mixed alcohol ether carboxylate surfactant blend, shipped as the free acid, for neutralization into a range of products and applications. Performance can be tailored as a function of pH. Under acidic conditions, AEC-8964 functions as a nonionic, under alkaline conditions -8964 functions as a hard water tolerant anionic.

MACAT AEC-8964 is recommended for all applications where low foam, wetting, alkaline stability and hypochlorite stability is critical. Use AEC-8964 in low foaming anionic systems for detergency and oil solubilization. Take advantage of the hypochlorite stability of AEC-8964 in CIP formulations and specialty cleaners.

MACAT AEC-8964 is readily biodegradable, non-VOC and easy to handle.

INCI Name: Capryleth-9 + Hexeth-4 Carboxylic Acids

Typical Properties

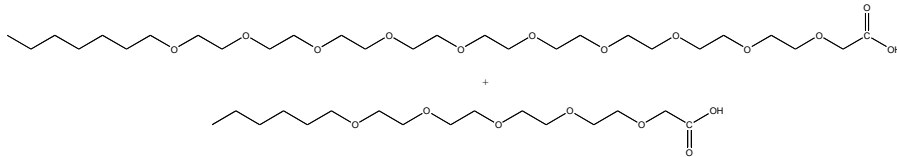
Classification	Mixture of ether carboxylic acids
Charge.....	Anionic/Nonionic
Physical form.....	Clear, pale yellow liquid
Specific gravity (20°C).....	1.05±0.04
Viscosity (20°C).....	100-400 cps
pH.....	2.5±1.0
Boiling Point	212°F/100°C
Flash point.....	>212°F/100°C
Shipping	Non-Red Label

Handling Information

Refer to the Material Safety Data Sheet (MSDS) available from Mason Chemical Company for information on the safe use, handling and disposal of this product.

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MACAT AEC-8964 is an 85% active mixed alcohol ether carboxylate surfactant blend, shipped as the free acid, for neutralization into a range of products and applications.

When formulated into HI&I specialty cleaning products, MACAT AEC-8964 is a low foaming, alkaline stable grease cutting surfactant. When formulated into hypochlorite containing CIP formulations, MACAT AEC-8964 is a low foaming, hypochlorite stable detergent. The formulations below illustrates these effects.

High Caustic CIP Formulation

Ingredients:	Wt. %
Water.....	52.9
MACAT AEC-8964	1.0
Masurf FS-710 ⁽¹⁾	0.1
Sodium Hydroxide, 50%.....	16.0
Sodium Hypochlorite, 12.5%.....	30.0

Notes:

Mix in order listed.

- (1) Masurf FS-710 is a low foam fluorosurfactant wetting agent for enhanced performance.

VOC-Free High Alkaline Degreaser

Ingredients:	Wt. %
Water.....	76.8
Potassium Hydroxide, 45%.....	20.0
Sodium Gluconate.....	0.2
Triethanolamine	0.4
MACAT AEC-8964	2.0
Masurf NRW ⁽¹⁾	0.5
Masurf FS-710 ⁽²⁾	0.1

Notes:

Mix in order listed.

- (1) Masurf NRW is a non-VOC high performance wetting agent.
(2) Masurf FS-710 is a low foam fluorosurfactant wetting agent for enhanced performance.

Formulation Guidelines-

We find the best way to utilize MACAT AEC in hypochlorite cleaners is to follow this order of addition:

- Charge water to the vessel
- Add MACAT AEC and other surfactants/ingredients
- Add NaOH (if even to neutralize the MACAT AEC)
- Finally, add hypochlorite solution

When we try to troubleshoot for a customer, we typically like to know

- The concentration of the hypochlorite
- Quality of the hypochlorite used
- Concentration and ratios of MACAT AEC used in the formulation

As most formulators have learned, when formulating with hypochlorite, the greater the initial hypochlorite concentration the greater its fall. We characterize the quality of the hypochlorite in the market as relating to the NaCl and NaOCl content. An acceptable standard quality of approx. 130 - 150 g/L NaOCl with approx. 13 - 15% of NaCl is recommended. Generally, the higher the content of NaCl in the hypochlorite solution the lower the phase stability of the resultant formulation. We have found that some formulations, and in particular the solubilizing of some fragrances, benefit from a blend of MACAT AEC surfactants.