



## TECHNICAL BULLETIN

### TAYCHEM TAF-16

#### Amino-Functional Silicone Softener Fluid

#### Characteristics:

TayChem TAF-16 is a reactive, aminoethyl aminopropyl functional polydimethylsiloxane.

#### Applications:

TayChem TAF-16 is particularly suitable as an active substance in softener formulations for impregnation of fibers and textiles. It imparts a very soft and drapeable handle to woven and knitted fabrics. This product is considered to be the best softening agent for PES knit. TayChem TAF-16 improves wash-and-wear properties, crease recovery angle, sewability, and tear strength and reduces abrasion loss. The effects are fast to washing and dry cleaning.

TayChem TAF-16 may have some effect on the degree of white in a softener formulation when usual application conditions are adhered to.

#### Processing:

TayChem TAF-16 can be applied neat, from solution, or from emulsion. Suitable solvents are aliphatic and aromatic hydrocarbons, chlorinated hydrocarbons, esters, higher alcohols, and ketones.

Most textile processes are water-based. Hence, TayChem TAF-16 is mainly applied from emulsion. It is suitable for the formulation of micro emulsions and macro emulsions.

Emulsions made with TayChem TAF-16 are diluted to the optimum concentration for the specific fabric. Application can be done by padding or exhaustion. This product can be utilized as the active substance in softener emulsions or in combination with other components, e.g., paraffin waxes, organic softeners, etc. Compatibility of the components has to be checked in each individual case.

#### Product Data:

<b>Appearance</b>	Clear Liquid
<b>Viscosity (mPas)</b>	2,000
<b>Amine Number/Amine Value</b>	0.57/32
<b>% Non-Volatiles</b>	> 95%

Because we cannot foresee or control the varied conditions under which this information and materials may be used, we do not guarantee the applicability or accuracy of this information or the suitability of our materials in any specific situation. Samples are provided and users should make their own tests to determine the suitability of our materials for their specific purposes. This material is provided without warranty, either expressed or implied, of fitness for a specific purpose and nothing herein shall be construed as a recommendation for uses which infringe valid patents or as extending license under valid patents.

TayChem Industries, Ltd.  
3060 Pharr Court North, N.W.  
Suite No. 11  
Atlanta, Georgia 30305-2054

Toll-Free Telephone No. (866) 794-0004  
Local Telephone No. (404) 264-0004  
Facsimile No. (404) 264-1816  
E-Mail Address: [taychemind@aol.com](mailto:taychemind@aol.com)



**Typical Recipe:**

Microemulsion:

	<b>Raw Material</b>	<b>Weight Percent</b>
1.	Fluid TayChem TAF-16	13.00%
2.	Tridecyl Alcohol 6 EO	04.00%
3.	Tridecyl Alcohol 9 EO	03.00%
4.	Acetic Acid	00.25%
5.	Water 1	10.00%
6.	Water 2	20.00%
7.	Water 3	44.65%
8.	Biocide	00.10%
9.	Water 4	05.00%

Procedure:

1.	Charge No. 1 and start sweep.
2.	Charge Nos. 2, 3, and 4. Mix well for ten minutes.
3.	Start high shear mixer and slowly charge No. 5. Emulsion should go to a gel phase at this point. Mix ten minutes.
4.	Charge No. 6 slowly. Emulsion should come out of the gel phase. Mix ten minutes.
5.	Charge No. 7 and stop high shear mixer.
6.	Charge Nos. 8 and 9. Mix until well blended.

It is recommended to use a tank with a sweep agitator and a high shear mixer. Temperature should be kept at 15°C to 30°C.

**Storage Stability:**

TayChem TAF-16 has a shelf life of at least six (6) months if stored in originally-sealed containers at 25°C or 70°F.

Emulsions showing signs of creaming should be agitated before use to assure uniform consistency.

If the material is kept beyond the recommended shelf life, it is not necessarily unusable, but quality control should be performed on the properties relevant to the application.

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**Safety Instructions:**

Comprehensive instructions are given in the corresponding Material Safety Data Sheet. This information is available upon request from TayChem Industries, Ltd.

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