



TECHNICAL BULLETIN

TAYCHEM TAF-23

Amino-Functional, Silicone Softener Fluid

Description:

TayChem TAF-23 is a general-purpose, low-cost, high molecular weight, reactive aminoethylaminopropyl fluid that imparts a very soft hand with normal yellowing characteristics associated with amino silicones.

Applications:

TayChem TAF-23 is particularly suitable as an active substance in softener formulations for the impregnation of fibers and textiles. This product imparts a very soft, drapeable, and elastic handle to woven and knitted fabrics. It is considered to be the best softening agent for cotton woven and knit fabrics made of cotton or cotton/PES blends. TayChem TAF-23 improves the 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-23 has very little effect on the degree of white in a softener formulation when usual application conditions are adhered to. As a rule, no adverse effect on the shade or color fastness properties of colored goods is observed.

As part of formulations used as fill fiber finish, TayChem TAF-23 imparts excellent slickness and resilience to the fiber.

Processing:

TayChem TAF-23 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-23 is mainly applied from emulsion. It is suitable for the formulation of micro emulsions and macro emulsions.

Emulsions made with TayChem TAF-23 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.

Typical Properties:

Property	Characteristic
Appearance	Clear Liquid
Viscosity {mPas}	4,500
Amine Number/Amine Value	0.30/17
Percent Non-Volatile	>95%

Note: These figures are intended as a guide and should not be used in preparing specifications.

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Typical Recipe:

Micro Emulsion:

	Raw Material	Percent
1.	TayChem TAF-23	23.00%
2.	Tridecyl Alcohol 6 EO	04.60%
3.	Tridecyl Alcohol 9 EO	02.40%
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 high shear mixer. Temperature should be kept at 15°C to 30°C.

Storage Stability:

TayChem TAF-23 has a shelf life of at least six {6} months if stored in its original, sealed container at 25°C or 70°F. 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.

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

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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