CovaChem

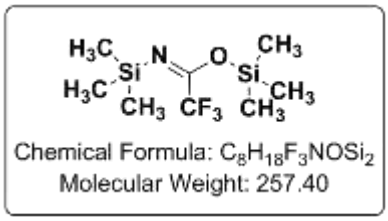
BSTFA

Product Number: 12102-10x1, 12102-25, 12102-100

BSTFA with 1% TMCS

Product Number: 12102T-10x1, 12102T-25, 12102T-100

Product Information Bulletin



Product Background

N,O-Bis(trimethylsilyl) trifluoroacetamide (BSTFA) is a derivatization reagent used to silylate carboxylic acids, amines, steroids, alcohols, alkaloids, amides, and phenols. BSTFA is a good alternative to BSA, as it is has a higher reaction rate, resulting in a more complete sample derivatization. BSTFA and its reaction by-products tend to elute early in the GC chromatogram due to their highly volatile nature, which results in reduced levels of interference and low noise.

Incorporating TMCS into this silylation reaction aides in the efficiency of the silylation reaction, particularly for difficult to react samples.

General BSTFA Silylation Protocol

1. To a 1 to 10 mg sample containing amines (-NH2), hydroxyl (-OH), caroboxylic acids (-COOH), phenols (bz-OH), or other reactive group, dissolved in an appropriate solvent or as a lyophilized sample, add 0.5 mL to 1.0 mL of BSTFA or BSTFA + 1% TMCS. It is generally recommended that a molar excess of at least 2:1 BSTFA to analyte is used for complete silylation.
2. Close the reaction vessel to minimize evaporation, and heat sample to 60 ^{o}C to 85 ^{o}C, and allow to react for 20 minutes. *(Reaction times vary for this reaction depending on the sample being silylated. It may be desirable to experiment with various temperatures and reaction times. Heat and TMCS both increase the rate of this silylation reaction.)*
3. Allow sample to cool to room temperature, then analyze by GC. (Unreacted BSTFA is non-polar and volatile, and should elute very early in chromatogram, minimizing interference).

Notes: If sample is in water, it is recommended that water be evaporated from the sample prior to reacting with BSTFA. Small quantities of water can be easily evaporated via lyophilzation or under a N_2 stream at 75 ^{o}C. Another viable approach for water removal is evaporation with an azeotrope, such as Dichloromethane. BSTFA and its derivatives are reactive towards water and tend to hydrolyze under hydrolytic conditions. Solvents that are not dry will decrease yields of this reaction. This reaction is much more efficient in anhydrous organic solvents such as Acetonitrile (ACN), Pyridine or N,N-Dimethylformamide (DMF). Please contact CovaChem for silylation grade solvents. BSTFA or BSTFA + 1% TMCS are often good solvents themselves, and can be used as the solvent at full strength if desired, requiring no additional solvent.

Product Description

Package Size and Product Numbers

10 x 1 gram.....12102-10x1

25 grams.....12102-25

100 grams.....12102-100

Product Name: BSTFA

CAS Number:.....25561-30-2

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10 x 1 gram.....12102T-10x1

25 grams.....12102T-25

100 grams.....12102T-100

Product Name: BSTFA with 1% TMCS

CAS Number:.....mixture

Product Specifications

- Appearance: Clear, colorless liquid
- Purity ≥ 99 %

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