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Product Information

N,O-Bis(trimethylsilyl)trifluoroacetamide with 1% trimethylchlorosilane

Product Number **T 6381**

Storage Temperature 2-8 °C

Product Description

Molecular Formula (BSTFA): $C_8H_{18}F_3NOSi_2$

Molecular Weight (BSTFA): 257.4

CAS Number (BSTFA): 25661-30-2

Density: 0.97 g/ml

Synonym: BSFTA

The position of the silyl groups has not been unequivocally established. BSTFA has been referred to as both N,N and N,O.

Bis(trimethylsilyl)trifluoroacetamide BSTFA is a powerful silylating reagent for the derivatization of a wide range of compounds.¹ BSTFA replaces labile hydrogens on compounds with trimethylsilyl groups, to form volatile and thermally stable derivatives for GC and GC-MS analysis. BSTFA is similar in strength to N,O-bis(trimethylsilyl)acetamide (BSA) and possesses advantages over BSA:

- 1) BSFTA and its by products are more volatile, resulting in less chromatographic interference.
- 2) The presence of fluorine reduces detector (FID) contamination.

The silyl donor properties of silylating reagents are distinctly influenced by the solvent systems and any added catalysts. Thus, trimethylchlorosilane (TMCS) is often added to the BSTFA to increase the silyl donor strength of the BSTFA.² A comparison of the relative efficiency of derivatization of carbonyl compounds by BSTFA and BSTFA/TMCS has been reported.³

BSTFA is a liquid at room temperature. It is very miscible with most commonly used silylation solvents, and BSTFA itself has good solvent properties. Thus, BSTFA can be used as a silylation reagent, without additional solvents. In general, BSTFA can effectively derivatize compounds at room temperature.

BSTFA is readily susceptible to hydrolysis, so it is strongly advised to exclude water from the samples before derivatization. Because of the reactivity of BSTFA with labile hydrogens, solvents which contain labile hydrogen atoms should not be used in the derivatization process.

BSTFA has been applied to the analysis of compounds from plants,⁴ human biological fluids,⁵⁻⁷ and the ambient atmosphere.⁸

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

BSFTA is miscible in hexane (100 mg/ml, w/v), yielding a clear to slightly hazy, colorless solution.

References

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GCY/RXR 2/03

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