Product Information

January 2025

HFBA – Heptafluorobutyric Anhydride

P/N: 370105

Available units: 20 x 1 mL, 1 x 10 mL, 5 x 10 mL (other packing units on request)

Physical data:
M = 410,06 g/mol
Kp = 109-111 °C
$d_{20/4}$ = 1.674 g/cm³

Application:
HFBA is particularly suitable for the acylation of free fatty acids (carboxylic acids), amines, amino acids, alcohols, phenols and steroids. The stable, volatile derivatives are particularly interesting for ECD detection due to their high fluorine content.
It is used in a mixture with solvents such as pyridine, benzene, and DMF.

Literature:
K. Blau, G.S. King, *Handbook of Derivatisation in Chromatography* (1977), Heyden, London

Acylation:
Dissolve approx. 0.1 - 1 mg of the sample to be acylated in a reaction vessel in 100 µL of pyridine as solvent, then add 100 µL of HFBA and heat for approx. 1-2 hours at 60 - 80 °C. The resulting reaction product can be injected directly into the GC.
If solvents other than pyridine are used, where there is the possibility of catalytically induced side reactions, the acylation mixture is evaporated in a stream of nitrogen, dissolved in a suitable solvent and injected into the GC.

GC Analysis:
The analysis of the resulting HFB esters of the various substance classes is in most cases carried out on fused silica capillary columns covered with non-polar phases such as OV-1 and SE-30, both 100 % methylsiloxanes. Medium polarity phases such as OV-17, OV-1701 and OV-210 are only rarely used as an alternative or in addition.