CONCEPT LIFE SCIENCES

METHOD STATEMENT FOR THE DETERMINATION OF VOLATILE FATTY ACIDS (VFAS) BY GC/FID

INTRODUCTION

This method is not UKAS accredited.

This method describes the determination of Volatile Fatty Acids (VFAs) in, waters and silica gel tubes by GC/FID.

PRINCIPLE

Water samples are derivatised by addition of phenyltrimethylammonium-hydroxide (TMAH) then analysed by capillary gas chromatography with flame ionisation detection. Quantitation is performed against an external standards containing the specific VFAs for which the analysis is required. Silica gel tubes are extracted in water then the water used to extract is treated the same way as an aqueous sample.

PERFORMANCE CHARACTERISTICS

SUBSTANCES DETERMINED

This method is suitable for analysis of acetic acid, butyric acid, proprionic acid, Valeric acid, Iso-valeric acid, methyl valeric acid and adipic acid.

RANGE OF APPLICATION

- Waters 100-500 mg/l
- Tubes 10 – 500 ug/tube

LIMIT OF DETECTION

- Waters 10 mg/l
- Tubes: 10 ug/tube

ANALYTICAL QUALITY CONTROL

Analytical quality control is maintained by a number of measures:

- Multi-point calibration with authentic standards
- Analysis of reagent/method blanks within each analytical batch