



CONCEPT LIFE SCIENCES

METHOD STATEMENT NUT003 FATTY ACIDS

INTRODUCTION

The performance of this method is validated in accordance with internationally recognised procedures.

This method is only conducted at the following Concept Laboratories: Cambridge

This procedure describes the characterisation of fatty acid profile in foodstuffs.

PRINCIPLE

Methyl esters of fatty acids are prepared from fat extracted from samples, and analysed by GC – FID. The fatty acid profile for the sample is calculated by area percentage normalisation of the individual fatty acid methyl esters found.

PERFORMANCE CHARACTERISTICS

SUBSTANCES DETERMINED

Major fatty acids with between 8 and 24 carbon atoms. Usually quantified as Saturated, Mono-unsaturated, Polyunsaturated, Omega and Trans fats.

Note: Fatty acids between 4 and 6 can be seen by the method but not accurately quantitated.

RANGE OF APPLICATION

0.01 – 100 g / 100 g fat for individual fatty acids

0.1 – 100 g / 100 g fat for the collective data

LIMIT OF DETECTION

0.01 g / 100 g fat for individual fatty acids

0.1 g / 100 g fat for the collective data

ANALYTICAL QUALITY CONTROL

Analytical quality control is maintained by a number of measures:

- Calibration with authentic standards (with defined minimum performance characteristics)
- Ongoing quality assured by the use of control charts in conjunction with warning and action limits for the QC sample data
- Participation in external proficiency testing and interlaboratory schemes such as FAPAS



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REFERENCES

- Pearson's Chemical Analysis of Foods, 9th Edition, Longman Group UK Limited, 1991, 0-582-40910-1.
- Agilent application notes
- McCance and Widdowson's The Composition of Foods 6th Edition.