

FAME's preparation using Microwave extraction and derivatisation

Summary

Microwave assisted FAME's preparation for all food types for further chromatographic determination by GC.

Instrumentation

Milestone Ethos EASY/UP with MAXI-44 high throughput rotor, 480/660 terminal with easyCONTROL software installed.



Sample weight

Up to 0.5g of high fat content sample

Reagents

- A - KOH solution in methanol
- B - Methylation solution
- C - Heptane or similar
- D - Saturated NaCl solution
- E - Anhydrous sodium sulfate

Procedure

1. Weigh sample in to MAXI-44 vessel and add 10ml of reagent A plus magnetic stir bar
2. Run FAME 1 microwave program and cool vessels to 30°C
3. Open vessels and add 15ml of reagent B
4. Run FAME 2 microwave program and cool vessels to 30°C
5. Open vessels and add 10ml of reagent C, then close vessel and invert.
6. Open vessel again and add reagent D until just below thread of vessel.
7. Place a small amount of reagent E in GC auto sampler vial, then extract a few milliliters from the clear supernatant layer and inject on to reagent E.

Microwave program

FAME 1

Step	Time	T2	Power
1	00:05:00	90°C	1800 W
2	00:10:00	90°C	1800 W

FAME 2

Step	Time	T2	Power
1	00:05:00	120°C	1800 W
2	00:05:00	120°C	1800 W

Note

This procedure is only a guideline and it may need to be modified or changed to obtain the required results on your sample.

Always use hand, eye and body protection when operating with the microwave system.