



Furan

Analysis of furan in food

Application Note

Food Testing & Agriculture

Authors

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Introduction

Furan is a volatile component that is present in foods in low concentrations. To extract it from the food matrix, headspace techniques are used. Often the sample is diluted with water and heated up to 70 - 80 °C. Using this technique it is possible to measure ppb levels of furan in different matrices. The Agilent PoraBOND Q porous polymer allows high analysis temperatures and the column is not sensitive to water.



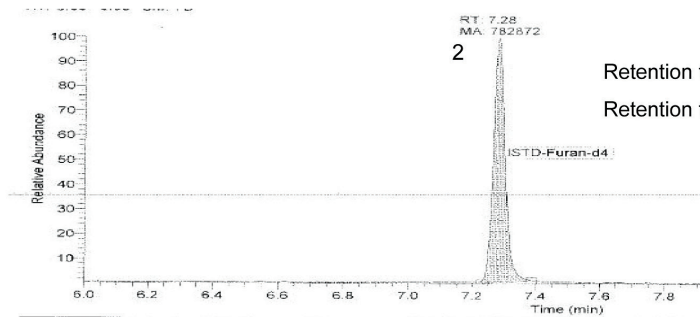
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Conditions

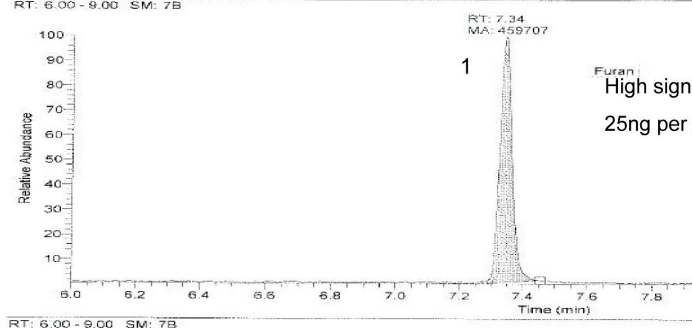
Technique : GC-capillary
Column : Agilent PoraBOND Q, 0.32 mm x 25 m fused silica (df = 5 μ m) (Part no. CP7351)
Temperature : 50 °C \rightarrow 150 °C, 10 °C/min \rightarrow 260 °C, 30 °C/min, 6 min 260 °C
Carrier Gas : Helium, constant flow, 1.7 mL/min
Injector : Head space, CTC CombiPAL, 10 min 70 °C, Syringe: 90 °C, 2 mL
Injection : Split, 1:6, T = 220 °C
Detector : MS, EI-mode, m/z 35 - 150
Sample : 2 g sample diluted with water; Internal standard furan-d4 is added
Concentration : 25 nanogram per vial (furan d4)

Peak identification

1. furan
2. furan d4



Retention time furan = 7.34 min
Retention time furan-D4 = 7.28 min



High signal obtained for 25 ng furan
25ng per 2 gram sample = 12.5 ppb

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This information is subject to change without notice.

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