

DETERMINATION OF ZEARALENONE IN CEREAL-BASED BABY FOOD

Regulations for processed cereal based food for baby food:
Europe (EC 1126/2007) : 20µg/Kg

PROTOCOL OF PURIFICATION

Sample preparation

Purification with a 3mL/100mg AFFINIMIP® SPE Zearalenone cartridge

25g of ground cereal-based samples were extracted with 100 mL of acetonitrile/deionized water (75/25, v/v) for 3 min. The extract was filtered through a folded filter paper and 10 mL of the filtrate were diluted with 10 mL of deionized water. Then, this solution was filtered through a filter paper. This solution was used as the loading solution.

Equilibration

- 4mL Acetonitrile
- 4mL Water

Loading

- 12mL of loading solution (eq. 1.5g sample)

Washing of interferences (W1)

- 4mL 58/2/40 Water/Acetic Acid/ACN

Elution (E)

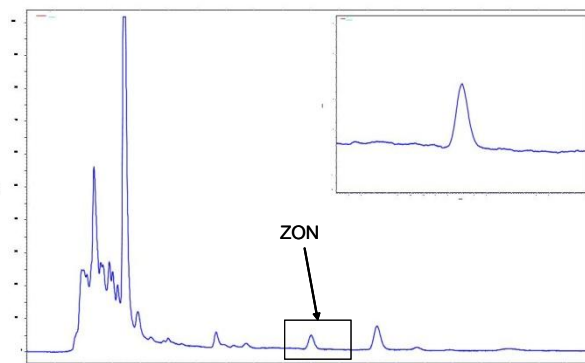
- 2mL Methanol – 2% Acetic Acid

The elution fraction was then evaporated and dissolved in water before HPLC analysis.

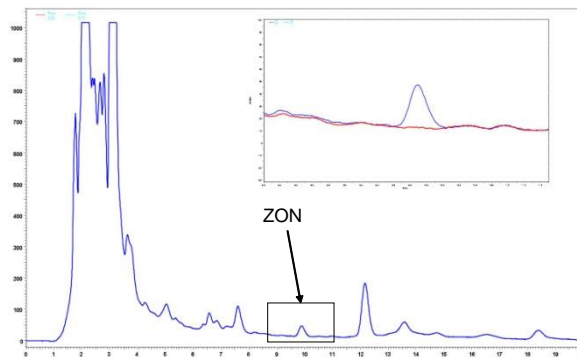
HPLC Method with Fluorescence detection

Column: Hypersil Gold C18 column 150mm x 4.6mm
Mobile phase: water/MeOH (40/60, v/v)
Flow rate: 1mL/min
Fluorescence detection: excitation/emission wavelengths: 275 / 450nm
Injection volume: 100µL.

RESULTS



Chromatogram obtained after purification of Cereal-based babyfood (contaminated at 41µg / kg) AFFINIMIP® SPE Zearalenone (after dilution by 2 of the elution fraction with water).



Chromatograms obtained after purification of Cereal-based babyfood (contaminated at 10µg/kg (blue) or 0µg/kg (red)) with AFFINIMIP® SPE Zearalenone (after evaporation of the elution fraction and dissolution in 1mL of the mobile phase).

Recoveries of Zearalenone at a contamination level of 41µg / kg after AFFINIMIP® SPE Zearalenone . Clean-up in Cereal – based baby food (n=5)

Recoveries %	% RSD
80	3

Catalog number:

3mL-100mg sorbent

FS100-02 for 25 cartridges

FS100-03 for 50 cartridges