

DETERMINATION OF ZEARALENONE IN EDIBLE CORN OIL

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

Corn oil is diluted 1/3 in Diethyl Ether to obtain the loading solution.

Equilibration

- 3mL Diethyl Ether

Loading

- 3mL of loading solution (eq. 1mL of corn oil)

Washing of interferents (W1)

- 6mL Diethyl ether

Drying 30 seconds

Washing of interferents (W2)

- 6mL 58/2/40 Water/Acetic Acid/ACN

Elution (E)

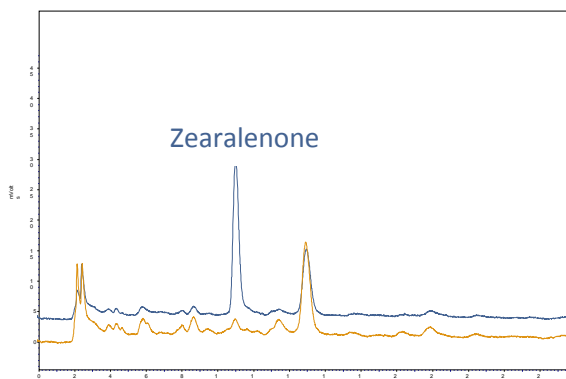
- 4mL Methanol – 2% Acetic Acid

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

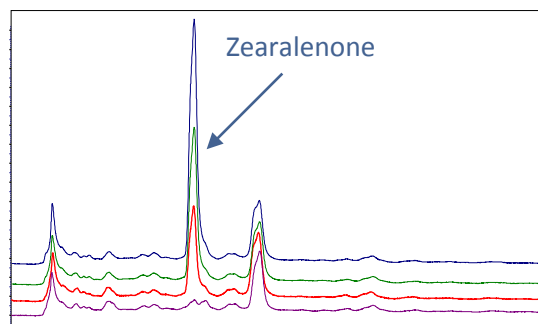
HPLC Method with Fluorescence detection

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



Chromatograms of Corn Oil spiked with Zearalenone at 400µg/L (blue) or not spiked (orange) obtained after cleanup by AFFINIMIP®SPE Zearalenone.



Chromatograms obtained after cleanup by AFFINIMIP®SPE Zearalenone of Corn Oil spiked with Zearalenone at 200µg/L (red), 400µg/L (green), 600 µg/L (blue) or not spiked (purple).

Recoveries of Zearalenone in Corn Oil at various contamination levels after AFFINIMIP®SPE Zearalenone cleanup.

C° (µg/L)	Mean C° (µg/L)	Recoveries %
200	230	115
400	440	110
600	678	113

Catalog number:

3mL-100mg sorbent

FS100-02 for 25 cartridges

FS100-03 for 50 cartridges