

# MYCOTOXINS ANALYSES

Mycotoxins are toxic secondary metabolites produced by different fungi present in agricultural commodities. They are regulated in food and feed due to nephrotoxic, neurotoxic, carcinogenic, estrogenic, and immunosuppressive effects.

AFFINISEP has developed two sets of products for mycotoxins analyses:

**Multimycotoxins extraction:** Designed for the simultaneous extraction of several mycotoxins which are present in the same matrix prior to LC-MS/MS analyses. These mycotoxins are all present in the same matrix to be analyzed. Their extraction is done all at once by SPE.

AFFINIMIP® SPE **Multimycoco LCMSMS** for the analyses of

- Fumonisin
- Aflatoxins
- Ochratoxin A
- T-2 and HT-2
- Zearalenone
- Deoxynivalenol

AFFINIMIP® SPE **FumoZON** for the analyses of

- Fumonisin
- Zearalenone

**Single mycotoxin extraction:** Designed for the analysis of one specific family of mycotoxin:

AFFINIMIP® SPE **Patulin**

AFFINIMIP® SPE **Ochratoxin A**

AFFINIMIP® SPE **Zearalenone**

AFFINIMIP® SPE **Fumonisin**

AFFINIMIP® SPE **Deoxynivalenol**

AFFINIMIP® SPE **Aflatoxine**



## Analytes

- Fumonisin B1/B2
- Aflatoxins B1/B2/G1/G2
- Ochratoxin A
- T-2 and HT-2
- Zearalenone
- Deoxynivalenol

## Matrices

- Wheat, Maize, Cereals, sunflower seeds, ...

## Advantages

- **SIMULTANEOUSLY** clean-up and concentrate the main regulated mycotoxins

## Regulation

In Europe, these mycotoxins are all regulated (see set values for each individual mycotoxin)

Aflatoxins - 1881/2006/EC :  
 foodstuffs : 0,1µg/kg Afla B1 for processed cereals for baby food  
 4,0 µg/kg for total aflas in processed cereals

*Application notes and publications are available on our website.*

Designation	Description	50 c/box
<b>AFFINIMIP® SPE Multimyco LCMSMS</b>	6mL	FS118-03B-200

*Visit our website to know more about this product and its formats.  
 Custom designed formats are available on demand.*



## Analytes

- Fumonisin B1+B2
- Zearalenone

## Matrices

- Wheat, Maize, Cereal-based baby food,

## Advantages

- **SIMULTANEOUS** analysis by LC-MS detection
- Very simple protocol

## Regulation

**Europe** - 1126/2007/EC: 20µg/kg and 200µg/kg on maize-based babyfood for respectively Zearalenone and Fumonisin

**Codex Alimentarius** - (193-1995): 2000µg Fumonisin B1+B2/kg for whole commodity

*Application notes and publications are available on our website.*

Designation	Description	50 c/box
<b>AFFINIMIP® SPE</b> <b>FumoZON</b>	3mL	FS109-03

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# AFFINIMIP® SPE Patulin



## Analytes

- Patulin

## Matrices

- Apple juice (clear & cloudy), Apple and Multifruit puree, Baby food, Cider, Alcohol, Pommeau, Manzella, Dried apple, Blueberry, Tomato Ketchup

## Advantages

- Applicable to several apple derived matrices
- **Unique** extraction method available on the market
- UV or LC-MS detection

## Regulation

### Regulations for apple puree:

**Europe** - 1881/2006/EC : 25µg/kg; 10µg/kg for infants and young children

**USA** (FDA CPG Sec.510.150) : 50µg/kg

### Regulations for apple juice :

**Europe** - 1881/2006/EC : 50µg/kg; 10µg/kg for infants and young children

**Codex alimentarius:** (193-1995): 50µg/kg apple juice

*Application notes and publications are available on our website.*

Designation	Description	50 c/box
<b>AFFINIMIP® SPE Patulin</b>	3mL	FS102-03
	6mL	FS102-03B
	3mL 50mL Pectinase	FS102-03K
	6mL & 50mL Pectinase – 1unit	FS102-03KB-200mg
	3mL & HPLC column & standard solution	FS102-03KLCS
	6mL & HPLC column & standard solution	FS102-03BKLCSP-200mg
	Pectinase enzymatic Solution 50mL – 1 unit	REA-001-50mL
	Patulin standard solution 1mL vial 100µg/mL	REA-PAT-1mL

**HPLC Column :** Silact™ HPLC LC-Patulin - 150x 2.1mm for patulin analysis  
ref: LC-Pat-150.2.1

# AFFINIMIP® SPE Ochratoxin A



## Analytes

- Ochratoxin A

## Matrices

- Wheat, Maize, red and white Wine, Several spices (Paprika, Pepper, ginger...), Coco, Human urine...

## Advantages

- Storage at RT like all AFFINIMIP® SPE
- Simple protocols
- Fluorescence or LC-MS detection

## Regulation

**Europe** - 1881/2006/EC: foodstuffs : 5µg/kg in raw cereal grains, 30µg/kg in spices, 2µg/kg in wine....

**Codex Alimentarius** - (193-1995): 5µg/Kg for wheat, barley, rye...

*Application notes and publications are available on our website.*

Designation	Description	50 c/box
<b>AFFINIMIP® SPE</b> <b>Ochratoxin A</b>	3mL	FS101-03
	6mL	FS101-03B
	10mL LRC	FS101-03LRC
	3mL for automate GERSTEL	FS101-03-GER
	3mL for automate GILSON	FS101-03-GIL
	6mL for automate GERSTEL	FS101-03B-GER
	6mL for automate GILSON	FS101-03B-GIL

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## Analytes

- Deoxynivalenol (*a.k.a* Vomitoxin)
- 3-AcetylDON
- 15-AcetylDON

## Matrices

- Oat, wheat, corn, baby food, meat, animal feed...

## Advantages

- UV and LC-MS detection

## Regulation

**Europe** - 1126/2007/EC : 1750µg/kg for unprocessed maize, 200µg/kg for babyfood cereals.

**US FDA** : 1 ppm in finished wheat products for human consumption

**Codex Alimentarius** - (193-1995): 1000µg/kg for flour maize, wheat, barley, 200µg/kg for babyfood cereals.

*Application notes and publications are available on our website.*

Designation	Description	50 c/box
AFFINIMIP® SPE Deoxynivalenol	6mL -100mg in food and babyfood	FS117-03B
	6mL – 200mg in feed	FS117-03B-200mg

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## Analytes

- Zearalenone, Zearalanone,  $\alpha$ -zearalenol,  $\alpha$ -zearalanol,  $\beta$ -zearalenol,  $\beta$ -zearalanol

## Matrices

- Wheat, Maize, Cereal-based baby food, Edible corn oil and Rice

## Advantages

- Fluorescence or LC-MS detection

## Regulation

**Europe** - 1881/2006/EC :  
 foodstuffs : 100 $\mu$ g/kg in cereals and 20 $\mu$ g/kg in maize-based babyfood.

*Application notes and publications are available on our website.*

Designation	Description	50 c/box
<b>AFFINIMIP® SPE</b> <b>Zearalenone</b>	3mL	FS100-03
	10mL LRC	FS100-03LRC
	3mL for automate GERSTEL	
	3mL for ASPEC automate GILSON	

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