



## BMF 29 - Food Safety I

### Highly Purified Natural Toxins for Food Analysis

**Chiron has built up a strong track record of supplying new reference standards during the past 30 years of operation. We are proud to announce our extended offer of Highly Purified Natural Toxins for Food Analysis:**

#### Mycotoxins



#### Plant toxins



#### Marine toxins



The basis of a good analytical method is the availability of appropriate standards of defined purity and concentration.

Our mission is to market highly purified toxin calibrates in crystalline as well as standardized solutions for chemical analysis, including internal standards.

Your benefits using our standards include:

- ◇ Fast turnover time due to excellent service.
- ◇ Guaranteed high and consistent quality.
- ◇ Sufficient capacity to serve the market, and bulk quantities available on request.
- ◇ Custom solutions on request.

Reference materials (RM) play an important role as they build the link between measurement results in the laboratory and international recognized standards in the traceability chain. Our standards are made according to the general requirements of ISO 9001. In 2011 we started to implement ISO 17025 and ISO guides 30-35.

### Other relevant food analysis literature:

**Food Safety I (BMF 29): Natural Toxins; Mycotoxins, Plant toxins and Marine toxins.**

**Food Safety II (BMF 30): Food Contaminants.**

**Food Safety III (BMF 31): Food Colours and Aroma.**

**Allergens: BMF 47.**

**Glycidyl fatty acid esters: BMF 56.**

**Melamine: BMF 48.**

**3-Monochloropropanediol esters (3-MCPD esters): BMF 49.**

**Plasticizers, Phthalates and Adipates: BMF 32 and BMF 50.**

**PFCs (Perfluorinated compounds) including PFOS and PFOA: BMF 20.**

**PCBs: BMF 14.**

**PBDEs (flame retardants): BMF 15.**

**Pesticides: BMF 33 and 34, and the Chiron catalogue 2008.**

**(“The Biomarker Catalogue - The Collection of Reference Standards 2008”): Pages 367-372.**

**Fatty acid and FAME's; see the Chiron catalogue 2008, page 425-428.**



# Mycotoxins

Calibrant solutions, Neat standards, Matrix reference materials.



2240.17-100-AN*	3-Acetyldeoxynivalenol	3-AcDON	100µg/mL	acetonitrile	1mL
3630.17-25-AN*	U{13C17}-3-Acetyl-deoxynivalenol		25µg/mL	acetonitrile	1.2mL
2247.17-100-AN	15-Acetyldeoxynivalenol	15-AcDON	100µg/mL	acetonitrile	1mL
2233.17-2-AN *	Aflatoxin B1	AFB1	2µg/mL	acetonitrile	1mL
8634.17-05-AN	U{13C17}-Aflatoxin B1		0.5µg/mL	acetonitrile	1.2mL
2234.17-050-AN*	Aflatoxin B2	AFB2	0.5 µg/ml	acetonitrile	1mL
9262.17-050-AN	U{13C17}-Aflatoxin B2		0.5µg/mL	acetonitrile	1.2mL
2235.17-2-AN*	Aflatoxin G1	AFG1	2µg/mL	acetonitrile	1mL
9263.17-050-AN	U{13C17}-Aflatoxin G1		0.5µg/ml	acetonitrile	1.2mL
2236.17-050-AN*	Aflatoxin G2	AFG2	0.5µg/ml	acetonitrile	1mL
9264.17-050-AN	U{13C17}-Aflatoxin G2		0.5µg/ml	acetonitrile	1.2mL
2237.17-050-AN	Aflatoxin M1	AFM1	0.5 µg/ml	acetonitrile	1mL
2237.17-050-5AN	Aflatoxin M1	AFM1	0.5 µg/ml	acetonitrile	5mL
3769.17-1MG	Aflatoxin M2	AFM2	neat	neat	1mg
8516-100-5dried	Agroclavine		100µg/ml, dried down	dried down	5mL
9248.14-100-dried	Alternariol		100µg/mL	dried down	1mL
9249.15-100-dried	Alternariol methyl ether		100µg/mL	dried down	1mL
9251.13-100-AN	Citrinin		100µg/mL	acetonitrile	1mL
9250.23-100-dried	Citreoviridin		100µg/mL	dried down	1mL
2245.15-50-AN	Deepoxy-deoxynivalenol	DOM-1	50µg/mL	acetonitrile	1mL
2245.15-50-5AN	Deepoxy-deoxynivalenol	DOM-1	50µg/mL	acetonitrile	5mL
2239.15-100-AN*	Deoxynivalenol	DON	100µg/mL	acetonitrile	1mL
3629.21-50-AN	Deoxynivalenol-3-glucoside		50µg/mL	acetonitrile	1mL
3627.15-25-AN	U{13C15}-Deoxynivalenol		25µg/mL	acetonitrile	1.2mL
3802-100G	Maize flour, Deoxynivalenol 474 +/-30µg/kg		474 +/- 30µg/kg		100g
8531-100G	Wheat flour, Deoxynivalenol 1062+/-116µg/kg		1062+/- 116µg/kg		100g
2249.19-100-AN	Diacetoxyscirpenol	DAS	100µg/mL	acetonitrile	1mL
2249.19-100-5AN	Diacetoxyscirpenol	DAS	100µg/mL	acetonitrile	5mL
9252.35-100-5dried	Dihydroergocristine		100µg/mL	dried down	5mL
9253.32-25-5dried	Ergocorninine	Isoergocorninine	25µg/mL	dried down	1mL
8518.35-100-5dried	Ergocristine		100µg/mL, dried down	dried down	5mL
9254.35-25-5dried	Ergocristinine	Isoergocristine	25µg/mL	dried down	5mL
3765.32-100-ME	Ergocryptine		100µg/mL	methanol	1mL
3765.32-100-5dried	Ergocryptine		100µg/mL, dried down	dried down	5mL
9255.32-25-5dried	Ergocryptinine	Isoergocryptine	25µg/mL	dried down	5mL
8519.19-100-5dried	Ergometrine		100µg/mL, dried down	dried down	5mL
8520.30-100-5dried	Ergosine		100µg/mL, dried down	dried down	5mL
8521.33-100-5dried	Ergotamine		100µg/mL, dried down	dried down	5mL
9256.33-25-5dried	Ergotaminine	Isoergotamine	25µg/mL	dried down	5mL
8522-100-AN	Fumagillin		100µg/mL	acetonitrile	1mL

2244.34-50-MX *	Fumonisin B1	FB1	50µg/mL	acetonitrile/water (50/50)	1mL
2246.34-50-MX	Fumonisin B2	FB2	50µg/mL	acetonitrile/water (50/50)	1mL
2246.34-50-5MX	Fumonisin B2	FB2	50µg/mL	acetonitrile/water (50/50)	5mL
3626.34-50-MX	Fumonisin B3	FB3	50µg/mL	acetonitrile/water (50/50)	1mL
3625.34-25-AN	U{13C34}-Fumonisin B1		25µg/mL	acetonitrile	1.2mL
8535.34-10-AN	U{13C34}-Fumonisin B2		10µg/mL	acetonitrile	1.2mL
8536.34-10-AN	U{13C34}-Fumonisin B3		10µg/mL	acetonitrile	1.2mL
2243.17-100-AN *	Fusarenon-X	FusX	100µg/mL	acetonitrile	1mL
8523.13-100-AN	Glitoxin		100µg/mL	acetonitrile	1mL
2248.22-100-AN	HT-2 Toxin	HT-2	100µg/mL	acetonitrile	1mL
2248.22-100-5AN	HT-2 Toxin	HT-2	100µg/mL	acetonitrile	5mL
3635.22-25-AN	U{13C22}-HT-2 Toxin		25µg/mL	acetonitrile	1.2mL
9258.6-100-dried	Kojic acid		100µg/mL	dried down	1mL
9259.23-100-dried	Meleagrins		100µg/mL	dried down	1mL
2968.23-25-AN	U{15N5}-Meleagrins		25µg/mL	acetonitrile	1.2mL
8524.4-100-MX	Moniliformin		100µg/mL	acetonitrile/water (50/50)	1mL
8376.17-100-AN	Mycophenolic acid		100µg/mL	acetonitrile	1mL
8376.17-100-5AN	Mycophenolic acid		100µg/mL	acetonitrile	5mL
9265.17-100-AN	U{13C17}-Mycophenolic acid		100µg/mL	acetonitrile	1.2mL
2242.19-100-AN*	Neosolaniol	NEO	100µg/mL	acetonitrile	1mL
2230.15-100-AN*	Nivalenol	NIV	100µg/mL	acetonitrile	1mL
2231.20-10-AN*	Ochratoxin A		10 µg/mL	acetonitrile	1mL
3638.20-10-AN	U{13C20}-Ochratoxin A		10µg/mL	acetonitrile	1.2mL
8533-100G	Wheat Flour, Ochratoxin A		2. 7+/- 1.0µg/kg		100g
8525.20-10-AN	Ochratoxin B		10µg/mL	acetonitrile	1mL
8526.11-10-AN	Ochratoxin-alpha		10µg/mL	acetonitrile	1mL
2232.7-100-AN *	Patulin		100µg/mL	acetonitrile	1mL
8876.7-25-AN	U{13C7}-Patulin		25µg/mL	acetonitrile	1.2mL
8527.27-100-AN	Paxilline		100µg/mL	acetonitrile	1mL
8528.8-100-AN	Penicillic acid		100µg/mL	acetonitrile	1mL
9260.22-100-dried	Roquefortine C		100µg/mL	dried down	1mL
9267.22-25-AN	U{13C22}-Roquefortine C		25µg/mL	acetonitrile	1.2mL
8378.18-50-AN*	Sterigmatocystine		50µg/mL	acetonitrile	1mL
9266.18-25-AN	U{13C18}-Sterigmatocystine		25µg/mL	acetonitrile	1.2mL
3633.15-50-AN	T-2 Tetraol		50µg/mL	acetonitrile	1mL
2241.25-100-AN*	T-2 Toxin	T-2	100 µg/mL	acetonitrile	1mL
3634.24-25-AN	U{13C24}-T-2 Toxin		25µg/mL	acetonitrile	1.2mL
3632.20-50-AN	T-2 Triol		50µg/mL	acetonitrile	1mL
9261.22-100-dried	Tentoxin		100µg/mL	dried down	1mL
9262.10-100-dried	Tenuazonic acid		100µg/mL	dried down	1mL
8376.15-25-AN	Verrucarol		25µg/mL	acetonitrile	1mL
8529.27-100-AN	Verruculogen		100µg/mL	acetonitrile	1mL
8530.23-100-AN	Wortmannin		100µg/mL	acetonitrile	1mL
8517.18-10-AN	α-Zearalanol	Zeranol	10 µg/mL		1mL
2250.18-10-5AN	α-Zearalenol		10 µg/mL	acetonitrile	1mL
2796.18-10-AN	β-Zearalanol	Taleranol	10 µg/mL	acetonitrile	1mL
2251.18-10-AN	β-Zearalenol		10 µg/mL	acetonitrile	1mL
2252.18-10-AN	Zearalanone		10 µg/mL	acetonitrile	1mL
2238.18-100-AN*	Zearalenone	ZON	100µg/mL	acetonitrile	1mL
8635.18-25-AN	U{13C18}-Zearalenone		25µg/mL	acetonitrile	1.2mL
3803-100G	Maize flour, zearalenone		60 +/-9 µg/kg		100g

\* Also delivered in 5mL and 5 MG neat.

\* Also delivered in 5 mL and 5 MG / 10 MG neat.





## Mycotoxin calibrant mixtures

S-4296-ASS-AN/ S-4296-ASS-5AN	MIX 1 Aflatoxins mixture; AFB1 & AFG1, AFB2 & AFG2; 2 µg/mL; 0,5 µg/mL	Mixture in acetonitrile, available in 1 mL and 5 mL
S-4297-100-AN/ S-4297-100-5AN	MIX 2 B-Trichothecenes mixture, DON, NIV, 3AcDON & 15-DON;	100 µg/mL each in acetonitrile, available in 1 mL and 5 mL
S-4298-50-MX/ S-4298-50-5MX	MIX 3 Fumonisin mixture, FB1 & FB2	50 µg/mL in acetonitrile/water, available in 1 mL and 5 mL
S-4531-10-AN/ S-4531-10-5AN	MIX 4 A+B-Trichothecenes+Zearalenone 3AcDON, DON, NIV, FusX, HT-2, T-2, DAS, ZON	10 µg/mL each in acetonitrile, available in 1 mL and 5 mL
S-4532-025-AN/ S-4532-025-6AN	MIX 5 Aflatoxins mixture, AFB1 & AFG1; AFB2 & AFG2	0.25 µg/mL each in acetonitrile, available in 1 mL and 6 mL
S-4533-100-5dried	MIX 6 Ergot alkaloids mixture of Ergocornine, Ergocristine, Ergocryptine, Ergometrine, Ergosine, Ergotamine	100 µg/mL, 5 mL dried down



## Plant and other natural toxins in food

	<i>Toxic pyrrolizidine alkaloids</i>		
3914.16-100-ME	Crotaline	Monocrotaline	100 µg/mL in methanol, 1 mL
8021.16-100-ME	Heliotrine		100 µg/mL in methanol, 1 mL
8035.21-100-ME	Lasiocarpine		100 µg/mL in methanol, 1 mL
3817.18-100-ME	Retrorcine		100 µg/mL in methanol, 1 mL
3818.18-100-ME	Senecionine		100 µg/mL in methanol, 1 mL
3819.18-100-ME	Seneciphylline		100 µg/mL in methanol, 1 mL
	<b><i>Solanine</i></b>		
3865.45-2MG	Solanine		2 mg neat
3865.45-100-AC	Solanine		100 µg/mL in acetonitrile, 1 mL
3866.27-10MG	Solanidine		10 mg neat
	<b><i>Coumarin</i></b>		
3867.9-K-ME	Coumarin		1000 µg/mL in methanol, 1 mL
3868.9-K-ME	Coumarin-d4		1000 µg/mL in methanol, 1 mL
8941.10-100MG	Coniferaldehyde		100 mg neat
3869.9-1ML	Cinnamaldehyde		1 mL neat
3870.7-1ML	Benzaldehyde		1 mL neat
3900.10-1ML	Eugenol		1 mL neat
3872.6-KIT	Coumarin Kit		One of each above



## Marine toxins

<b>Algae and shellfish toxins</b>			
<b><i>Amnesic shellfish (ASP) toxins</i></b>			
3692.15-100-05MX	Domoic acid	CRM-DA-e	99.4 µM in acetonitrile/water, 0.5 mL
3693.15-40-8G	<i>Mytilus edulis</i> , homogenized (Domoic acid)	CRM-ASP-Mus-c	41 µg/g, homogenized mussel, 8 g
3694-100-15G	<i>Mytilus edulis</i> , homogenized (Domoic acid)	RM-ASP-Mus	98 µg/g, homogenized mussel, 15 g
<b><i>Diarrhetic shellfish (DSP) and lipophilic toxins</i></b>			
3695.44-20-05ME	Okadaic acid	CRM-OA-c	17.7 µM in methanol, 0.5 mL
3696.44-10-4G	Blue mussel, homogenized (Okadaic acid)	CRM-DSP-Mus-b	10.1 µg/g, homogenized blend, 4 g
3697.45-100UG	Dinophysis toxin 1		100 µg neat
3698.X-10-05ME	Pectenotoxin	CRM-PTX2	10.0 µM in methanol, 0.5 mL
3700.42-10-05ME	13-Desmethyl spirolide C	CRM-SPX1	10.2 µM in methanol, 0.5 mL
3701.32-10-05ME	Gymnodimine	CRM-GYM	9.9 µM in methanol, 0.5 mL
3702.55-5-05ME	Yessotoxin	CRM-YTX	4.6 µM in methanol, 0.5 mL
8202.X-1-05ME	Azaspirazide 1	CRM-AZA1	1.47 µM/L in methanol, 0.5 mL
9884.X-1-05ME	Azaspirazide 2	CRM-AZA2	1.5 µmol/L in methanol, 0.5 mL
9885.X-1-05ME	Azaspirazide 3	CRM-AZA3	1.25 µmol/L in methanol, 0.5 mL
<b><i>Paralytic shellfish (PSP) toxins</i></b>			
3703.10-60-05HC	Saxitoxin dihydrochloride	CRM-STX-e	65 µM in 10 <sup>-3</sup> M HCl, 0.5 mL
9976.10-65-05HC	Neosaxitoxin	CRM-NEO-b	65 µM in 10 <sup>-3</sup> M HCl, 0.5 mL
3705.-60-05HC	Descarbamoylsaxitoxin	CRM-dcSTX	62 µM in 10 <sup>-3</sup> M HCl, 0.5 mL
3706.10-05HC	Gonyautoxin-1 and -4	CRM-GTX1&4-b	106+35 µM HCl/acetic acid, 0.5 mL
3707.10-05HC	Gonyautoxin-2 and -3	CRM-GTX2&3-b	118+39 µM in HCl/acetic acid, 0.5 mL
3708.10-60-05HC	Gonyautoxin-5 (akaB1)	CRM-GTX5-b	65 µM in HCl(aq) pH5, 0.5 mL
3710.X-30-05W	Descarbamoylneosaxitoxin	CRM-dcNEO	30 µM in water
3711.X-140-05HC	N-Sulfocarbamoyl-gonyautoxin-2 and -3	CRM-C1&2	114+35 µM in HCl(aq) pH5, 0.5 ml
<b><i>Freshwater / cyanobacterial toxins</i></b>			
3712.15-30-05W	Cylindrospermopsin	CRM-CYN	30 µM in water, 0.5 mL
2552.10-1MG	(+/-)-Anatoxin A, fumarate		1 mg neat