

ReferenceMatrixMaterials from *aokin* consist of naturally contaminated matrices. All dry materials have been homogenized (by cross riffing or tumbling rotation) and tested for homogeneity with using 10 g of sample. Therefore the recommended minimum amount of sample to be used is 10 g. 1 unit equals 50 g / pack, if not stated otherwise.

Please enquire also for materials not listed, we may have additional materials in stock and we are set up to do production on demand.

Product code:

... r: Certified Reference Materials are manufactured under strict quality assurance and control and are characterized by laboratories in a proficiency testing round under ISO 17034 certification. It is naturally contaminated. Unweighted mean value of accepted sets of data are provided. Each set being obtained in a different laboratory. Following confirmatory methods have been used HPLC-MS/MS, HPLC/FLD, HPLC/MS or LC-MS/MS. The certified value and its uncertainty are traceable to the International System of Units (SI) as chemical mass fraction as $\mu\text{g}/\text{kg}$.

... a: Control Materials are manufactured under strict quality assurance and control and are characterized by laboratories under ISO 9001 certification and ISO 17025 accreditation. The mean value of accepted sets of data and the satisfactory range or double standard deviation are reported. The value is traceable to the International System of Units (SI) as chemical mass fraction as $\mu\text{g}/\text{kg}$.

Multitoxin

Mycotoxin	Sample Type	Contamination	[$\mu\text{g}/\text{kg}$]	units	Order No.
Aflatoxin	Animal Feed	total	15,36	38	RMM-34-1604r
		B1	presence		
		B2	1,46		
		G1	4,20		
		G2	presence		
Ochratoxin		A	presence		
Deoxynivalenol	Barley		238 \pm 87	27	RMM-1278-363a
T2/HT2		(sum value)	30 \pm 10		
Zearalenone			572 \pm 260		
Aflatoxin	Corn	total	11,55 \pm 7,23	9	RMM-35-1750-1r
		B1	9,34 \pm 4,11		
		B2	0,42 \pm 0,18		
		G1	1,57 \pm 0,69		
		G2	< 1,00		
Fumonisin		total	3429 \pm 1715		
		B1	2545 \pm 1273		
		B2	608 \pm 210		

Multitoxin

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.	
Aflatoxin	Corn ca. 40 g	total	12,15	22	RMM-345-1500r
		B1	10,17		
		B2	0,67		
		G1	0,47		
		G2	present		
		Ochratoxin	A		
Fumonisin		total	2010		
		B1	1536		
		B2	444		
Aflatoxin	Corn ca. 40 g	total	$16,57 \pm 9,83$	26	RMM-345-2050r
		B1	$15,17 \pm 9,12$		
		B2	$1,00 \pm 0,48$		
		G1	$0,80 \pm 0,40$		
		G2	presence		
		Ochratoxin	A		
Fumonisin		total	1435 ± 574		
		B1	1175 ± 470		
		B2	296 ± 118		
Deoxynivalenol	Corn		195 ± 59	60	RMM-12578-313a
Fumonisin		total	488 ± 174		
T2/HT2		(sum value)	< 10		
Zearalenone			175 ± 30		
Deoxynivalenol	Corn		618	39	RMM-12-1501r
Zearalenone			125		
Deoxynivalenol	Corn		702 ± 281	23	RMM-12-2051r
Zearalenone			233 ± 102		
Deoxynivalenol	Corn		851 ± 341	11	RMM-12-1956r
Zearalenone			238 ± 94		
Deoxynivalenol	Corn		2685 ± 293	ca. 4	RMM-12-910a
Zearalenone			332 ± 100		
Deoxynivalenol	Corn		5792 ± 1150	ca. 6	RMM-12-909a
Zearalenone			884 ± 265		
Deoxynivalenol	Corn		11394 ± 3418	ca. 12	RMM-12-908a
Zearalenone			1688 ± 506		
Deoxynivalenol	Corn		16128 ± 2582	ca. 9	RMM-12-907a
Zearalenone			6425 ± 1928		
Deoxynivalenol	Corn		24794 ± 1861	18	RMM-12-906a
Zearalenone			11973 ± 3590		

Multitoxin

Mycotoxin	Sample Type	Contamination	[µg/kg]	units	Order No.
T2/HT2	Corn	(sum value)	< 10	86	RMM-178-361a
Zearalenone			545 ± 163		
Deoxynivalenol	Durum Wheat		1014	38	RMM-278-1602r
T2/HT2		(sum value)	113		
		T2	48,86		
		HT2	59,05		
Aflatoxin	Durum Wheat	total	< 1,00	14	RMM-23-1562-2r
		B1	< 0,05		
		B2	< 1,00		
		G1	< 0,05		
		G2	< 1,00		
Deoxynivalenol			893 ± 290		
Aflatoxin	Oats	total	12,5 ± 4,6	5	RMM-234-707a
		B1	7,4 ± 2,7		
		B2	0,8 ± 0,3		
		G1	3,7 ± 1,4		
		G2	0,6 ± 0,2		
Deoxynivalenol			469 ± 140		
Ochratoxin		A	0,62 ± 0,2		
Aflatoxin	Paprika	total	15,80 ± 9,44	6	RMM-34-1752r
		B1	9,40 ± 3,65		
		B2	1,24 ± 0,36		
		G1	3,64 ± 1,62		
		G2	1,19 ± 0,35		
Ochratoxin		A	5,80 ± 2,37		
Aflatoxin	Paprika	total	16,36 ± 9,7	18	RMM-34-1964r
		B1	9,51 ± 4,2		
		B2	1,51 ± 0,7		
		G1	3,89 ± 1,7		
		G2	0,76 ± 0,3		
Ochratoxin		A	7,06 ± 3,1		
Aflatoxin	Paprika	total	20,19	37	RMM-34-1603r
		B1	1,89		
		B2	5,85		
		G1	0,92		
		G2	11,51		
Ochratoxin		A	8,31		

Multitoxin

Mycotoxin	Sample Type	Contamination	[µg/kg]	units	Order No.
Deoxynivalenol	Triticale		4515 ± 1151	108	RMM-1278-359a
T2/HT2		(sum value)	13 ± 4		
Zearalenone			77 ± 23		
Aflatoxin	Wheat	total	3,34 ± 1,00	38	RMM-123-912a
Deoxynivalenol			2414 ± 407		
Zearalenone			143 ± 38		
Aflatoxin	Wheat	total	3,89 ± 1,17	ca. 52	RMM-123-911a
Deoxynivalenol			6118 ± 958		
Zearalenone			383 ± 12		
Deoxynivalenol	Wheat		527 ± 186	5	RMM-278-2062r
T2/HT2		T2	18,31 ± 12,4		
		HT2	presence		
Deoxynivalenol	Wheat		582 ± 233	10	RMM-278-1963r
T2/HT2		(sum value)	155,2 ± 66		
		HT2	135,2 ± 58		

Aflatoxins

Mycotoxin	Sample Type	Contamination [µg/kg]	units	Order No.	
Aflatoxin	Almonds	total	197 ± 59	47	RMM-03-980a
		B1	115,9 ± 33,1		
		B2	16,9 ± 4,8		
		G1	54,8 ± 18,6		
		G2	8,9 ± 2,5		
Aflatoxin	Animal Feed	total	16,00 ± 2,55	76	RMM-03-709a
Aflatoxin	Animal Feed	total	19,11 ± 4,87	18	RMM-03-1553-1r
		B1	16,78 ± 4,18		
		B2	1,13 ± 0,25		
		G1	< 1,00		
		G2	< 1,00		
Aflatoxin	Animal Feed	total	20,32 ± 11,7	22	RMM-03-1962r
		B1	12,07 ± 7,5		
		B2	3,09 ± 1,4		
		G1	6,20 ± 2,7		
Aflatoxin	Animal Feed	total	27,00 ± 16,65	20	RMM-03-2061r
		B1	11,42 ± 7,16		
		B2	2,42 ± 1,06		
		G1	7,65 ± 3,37		
		G2	1,70 ± 0,85		
Aflatoxin	Animal Feed	total	33,80 ± 12,16	12	RMM-03-1673-1r
		B1	19,40 ± 2,99		
		B2	3,02 ± 0,47		
		G1	8,85 ± 4,44		
		G2	2,09 ± 1,35		
Aflatoxin	Animal Feed	total	37,08 ± 19,48	14	RMM-03-1765r
		B1	22,95 ± 8,01		
		B2	6,42 ± 1,92		
		G1	9,77 ± 3,30		
		G2	1,86 ± 0,56		
Aflatoxin	Corn	total	< 1,00	18	RMM-03-1750-2r
		B1	< 0,20		
		B2	< 0,10		
		G1	< 0,50		
		G2	< 0,20		

Aflatoxins

Mycotoxin	Sample Type	Contamination	[µg/kg]	units	Order No.
Aflatoxin	Corn	total	1,95 ± 0,86	17	RMM-03-1850-1r
		B1	1,66 ± 0,72		
		B2	< 0,50		
		G1	< 0,50		
		G2	< 0,50		
Aflatoxin	Corn	total	3,92 ± 1,18	25	RMM-03-828a
Aflatoxin	Corn	total	6,88 ± 2,06	10	RMM-03-829a
Aflatoxin	Corn	total	7,48 ± 2,24	28	RMM-03-808a
Aflatoxin	Corn	total	10,50 ± 3,20	20	RMM-03-830a
Aflatoxin	Corn	total	27,76 ± 8,64	35	RMM-03-1850-2r
		B1	19,53 ± 5,46		
		B2	1,00 ± 0,27		
		G1	7,48 ± 4,35		
		G2	< 1,00		
Aflatoxin	Corn	total	66,56 ± 19,97	18	RMM-03-831a
Aflatoxin	Corn/Almonds	total	13,43 ± 4,03	5	RMM-03-816a
Aflatoxin	Paprika	total	30,02 ± 8,83	40	RMM-03-1462r
		B1	17,42 ± 4,91		
		B2	2,36 ± 0,78		
		G1	8,45 ± 0,90		
		G2	1,56 ± 0,21		
Aflatoxin	Pistacchio	total	8,43	37	RMM-03-1502r
		B1	7,46		
		B2	0,74		
		G1	present		
		G2	< 0,10		
Aflatoxin	Pistacchio	total	60,80 ± 21,39	7	RMM-03-1552r
		B1	53,73 ± 16,04		
		B2	4,18 ± 1,82		
		G1	2,35 ± 1,47		
		G2	0,41 ± 0,17		
Aflatoxin	Wheat	total	10,10 ± 3,98	33	RMM-03-708a
Aflatoxin	Milk	M1	< 0,01	40	RMM-31-181a

Alkaloids

Mycotoxin	Sample Type	Contamination [µg/kg]	units	Order No.
Ergometrin	Rye	5,0	46	RMM-80-211a
Ergometrinin		3,3		
Ergosin		16,3		
Ergosinin		4,7		
Ergotamin		16,9		
Ergotaminin		15,0		
Ergocornin		7,9		
Ergocorninin		5,4		
α-Ergokryptin		6,5		
α-Ergokryptinin		1,1		
Ergocristin		11,3		
Ergocristinin		1,9		
		total		
Ergometrin	Rye	35,4	100	RMM-80-923a
Ergometrinin		7,4		
Ergosin		66,2		
Ergosinin		28,5		
Ergotamin		93,8		
Ergotaminin		42,2		
Ergocornin		36,0		
Ergocorninin		10,8		
αβ-Ergokryptin		50,6		
αβ-Ergokryptinin		19,6		
Ergocristin		95,2		
Ergocristinin		22,3		
		total		
Ergometrin	Rye	56,9	99	RMM-80-922a
Ergometrinin		11,2		
Ergosin		80,3		
Ergosinin		39,0		
Ergotamin		164,0		
Ergotaminin		63,4		
Ergocornin		62,9		
Ergocorninin		20,2		
αβ-Ergokryptin		101,2		
αβ-Ergokryptinin		38,2		
Ergocristin		150,7		
Ergocristinin		44,4		
		total		

Deoxynivalenol

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.
Deoxynivalenol	Corn	1300 \pm 390	18	RMM-02-826a
Deoxynivalenol	Corn	2600 \pm 780	35	RMM-02-820a
Deoxynivalenol	Corn	5850 \pm 1755	11	RMM-02-825a
Deoxynivalenol	Malt	938 \pm 280	58	RMM-02-918a
Deoxynivalenol	Wheat	< 100	123	RMM-02-348a
Deoxynivalenol	Wheat	< 250	7	RMM-02-1671-2r
Deoxynivalenol	Wheat	< 290	83	RMM-02-1463-1r
Deoxynivalenol	Wheat	255 \pm 75	168	RMM-02-420a
Deoxynivalenol	Wheat	1070 \pm 339	10	RMM-02-529a
Deoxynivalenol	Wheat	1516 \pm 385	52	RMM-02-1463-2r
Deoxynivalenol	Wheat	1597 \pm 639	10	RMM-02-1862r
Deoxynivalenol	Wheat ca. 40 g	1950 \pm 585	22	RMM-02-715a
Deoxynivalenol	Wheat	2437 \pm 609	55	RMM-02-750a

Fumonisin

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.	
Fumonisin	Corn	total	1170,7 \pm 362,2	9	RMM-05-1851r
		B1	935 \pm 292		
		B2	245 \pm 123		
Fumonisin	Corn	total	21197 \pm 6350	88	RMM-05-920a
		B1	16480 \pm 4940		
		B2	4717 \pm 1410		
Fumonisin	Wheat	total	86431 \pm 25900	53	RMM-05-921a
		B1	69223 \pm 20760		
		B2	17208 \pm 5140		

Ochratoxin

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.
Ochratoxin	Animal Feed	A 17,1 \pm 10,1	9	RMM-04-1553-2r
Ochratoxin	Cocoa	A 4,46 \pm 1,96	24	RMM-04-2053-2r
Ochratoxin	Cocoa	A 8,03	5	RMM-04-1503-2r
Ochratoxin	Cocoa	A 8,30 \pm 3,65	14	RMM-04-1952-2r
Ochratoxin	Coffee green	A < 1	18	RMM-04-900a
Ochratoxin	Coffee green	A 1,1 \pm 0,3	ca. 1	RMM-04-901a
Ochratoxin	Coffee green	A 5,07	38	RMM-04-1503-1r

Ochratoxin

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.
Ochratoxin	Coffee green	A 7,36 \pm 3,24	15	RMM-04-1952-1r
Ochratoxin	Coffee green	A 9,01 \pm 3,96	23	RMM-04-1554r
Ochratoxin	Coffee green	A 10,24 \pm 2,96	19	RMM-04-1663r
Ochratoxin	Coffee roasted	A 5,73 \pm 2,52	27	RMM-04-842a
Ochratoxin	Corn	A 43,2 \pm 13,0	39	RMM-04-919a

T-2/HT-2 toxin

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.
T2/HT2	Durum Wheat	(sum value) 71,1 \pm 21,3	2	RMM-78-435a
T2/HT2	Durum Wheat	(sum value) 150 \pm 64	2	RMM-78-428a
T2/HT2	Durum Wheat	(sum value) 360 \pm 134	2	RMM-78-433a
T2/HT2	Oatmeal	(sum value) 20 \pm 7 T2 7 \pm 5 HT2 13 \pm 5	11	RMM-78-917a
T2/HT2	Wheat	(sum value) 26,5 \pm 16,8	3	RMM-78-427a

Zearalenone

Mycotoxin	Sample Type	Contamination [$\mu\text{g}/\text{kg}$]	units	Order No.
Zearalenone	Corn	7 \pm 1	15	RMM-01-1551-1r
Zearalenone	Corn	118 \pm 53	15	RMM-01-1863r
Zearalenone	Corn	160 \pm 22	4	RMM-01-1551-2r
Zearalenone	Millet	252 \pm 75	112	RMM-01-364a
Zearalenone	Triticale	58 \pm 18	57	RMM-01-533a