



Referenzmaterialien – Biologische Matrix

Reference materials – Biological Matrix

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Die nachstehenden Proben mit der Kodierung WU sind Referenzmaterialien aus dem International Plant-Analytical Exchange Programm der Universität Wageningen, Niederlande. Die zertifizierten Werte kommen aus dem weltweit größten analytischen Programm mit mehreren hundert beteiligten Laboratorien aus über 70 Ländern, kritisch beurteilt und statistisch abgesichert. Die nachfolgende Darstellung umfaßt das Gesamtprogramm, nicht nach Matrix getrennt.

The following standards with article coding WU are reference materials from the International Plant-Analytical Exchange programme of the University of Wageningen, Netherlands. The certified values are extracted from the worldwide largest analytical programme with several hundred of laboratories from more than 70 countries, after statistic screening and expert evaluation. The following description comprises the full product range, not split into matrix categories.

CRM		B	Fe	Mn	Zn						
WU B112	mg/kg	74.0	1277	141	77.0						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	480	79.0	1169	144	1081	50.0	407	225	83.0	Nelke, überird. Teile; Carnation (Straw); Dianthus

RM		B	Cu	Fe	Mn	Zn						
WU B211	mg/kg	9.05	4.00	101	74.0	66.3						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	82.0	171	627	84.0	1007	2.04	188	86.5	34.0	Maispflanze; Maize (Plant); Zea Mays	

RM		B	Cu	Fe	Mn	Zn						
WU B212	mg/kg	25.0	3.00	78.0	34.0	22.0						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	321	56.0	612	30.0	681	11.0	22.0	71.0	34.0	Gladiole, Blätter; Gladiolus (Leaf); Gladiolus	

RM		B	Cu	Fe	Mn	Zn						
WU B213	mg/kg	23.0	4.00	210	372	313						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	239	137	250	53.0	1038	7.00	2.00	46.0	44.0	Konifere; Conifers; Coniferae	

RM		B	Cu	Fe	Mn	Zn						
WU B214	mg/kg	2.00	3.00	93.3	20.0	8.00						
		Ca	Cl	K	Mg	N-Kj	Na	P	S	30 g		
	mmol/kg	45.0	32.2	115	25.0	201	4.39	16.2	25.0		Weizen, Stroh: Wheat (Straw); Triticum Aestivum	

RM		B	Cu	Fe	Mn	Zn					
WU B215	mg/kg	26.0	2.78	224	21.0	17.2					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	1169	301	693	74.0	1942	39.0	302	87.6	466	Kohl, Blätter; Cabbage (Leaf); Brassica Oleracea
RM		B	Cu	Fe	Mn	Zn					
WU B216	mg/kg	11.0	12.0	79.0	14.5	47.2					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	35.0	37.3	469	71.0	3267	2.87	0.72	212	56.0	Bohnen; Broadbeans; Vicia Faba
RM		B	Cu	Fe	Mn	Zn					
WU B220	mg/kg	14.0	3.00	145	8.00	14.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	100	23.0	113	25.0	1106	11.0	2.00	61.0	24.0	Krokuszwiebel; Crocus (Tuber); Crocus Vernus
RM		B	Cu	Fe	Mn	Zn					
WU B221	mg/kg	36.5	10.00	177	97.00	68.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	516	278.0	1192	230	2424	34.0	192.00	263.0	128.0	Gurke, Mischung; Gherkin (Mixture); Sicyos L.
RM		B	Cu	Fe	Mn	Zn					
WU B222	mg/kg	25.0	5.00	89.0	70.00	47.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	454	53.0	369	109	1498	6.50	2.00	56.0	52.5	Apfel, Blättermischung; Apple (Leaf Mixture); Malus

RM		B	Cu	Fe	Mn	Zn					
WU B223	mg/kg	8.00	15.00	507	82.0	82.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	136	175	969	70.0	2371	56.00	220	138	112	Gras, Mischung; Grass (Mixture); Poaceae
RM		B	Cu	Fe	Mn	Zn					
WU B224	mg/kg	14.5	15.0	924	94.0	51.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	69.0	1134	620	94.0	1114	733	1.00	58.0	67.0	Seaclub-Rush; Scirpus Maritimus
RM		B	Cu	Fe	Mn	Zn					
WU B225	mg/kg	10.5	6.00	1202	77.0	26.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	115	1239	404	144	1446	1222	1.00	99.0	128	Cord Grass; Spartina Anglica
RM		B	Cu	Fe	Mn	Zn					
WU B226	mg/kg	537	14.0	268	814	62.0					
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g
	mmol/kg	384	1240	804	319	1185	1160	1.00	114	184	Seeaster; Sea Aster; Aster Tripolium
RM		B	Cu	Fe	Mn	Zn					
WU B227	mg/kg	2.50	2.00	52.0	7.00	10.4					
		Ca	Cl	K	Mg	N-Kj	Na	P	S	30 g	
	mmol/kg	40.0	195	353	20.1	181	12	15	31		Weizenstroh; Wheat (Straw); Triticum L.

RM		B	Cu	Fe	Mn	Zn						
WU B228	mg/kg	8.10	8.00	1135	142	26.0						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	142.0	133	493	51.0	1160	26.1	15.4	90.0	53.0	Tall Fescue; Festuca Arundinacea	
WU B229	mg/kg	35.0	5.00	238	41.0	20.0						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	566	150	670	66.9	1925	9.00	15.3	76.0	90.0	Luzerne; Lucerne; Medicago Sativum	
WU B230	mg/kg	5.01	4.50	143	79.9	39.0						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	86.0	82.2	330	61.7	430	3.80	23.0	17.1	17.5	Maishalme; Maize (Stalk); Zea Mays	
WU B231	mg/kg	15.2	4.93	85.0	319	33.8						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	62.3	59.0	215	50.9	903	24.9	-	40.1	30.9	Kiefernadeln; Pine Needles; Pinus Radiata	
WU B232	mg/kg	5.02	5.89	55.8	5.94	16.4						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	15.2	51.8	459	33.7	718	3.61	4.38	78.6	41.6	Kartoffel, Mischung; Potato, Mixture; Solanum Tuberosum	
WU B233	mg/kg	24.5	4.60	103	6.92	18.7						
		Ca	Cl	K	Mg	N-Kj	Na	NO ₃	P	S	30 g	
	mmol/kg	90.4	126	545	39.3	743	323	19.6	93.3	38.2	Winterkarotten, Mischung; Winter Carrots, Mixture; Daucus Carota	

RM		B	Cu	Fe	Mn	Zn						
WU B234	mg/kg	33.7	6.16	155	134	64.4						
		Ca	Cl	K	Mg	N-Kj	Na	NO₃	P	S	30 g	
	mmol/kg	282	234	1174	114	2635	479	330	271	187	Endivie, Mischung; Endive, Mixture; Cichorium Endiva L.	
RM		B	Cu	Fe	Mn	Zn						
WU B235	mg/kg	25.9	4.23	145	39.2	31.6						
		Ca	Cl	K	Mg	N-Kj	Na	NO₃	P	S	30 g	
	mmol/kg	450	109	625	79.0	2845	19.0	63.1	171	317	Rosenkohl, Blätter; Curly Kail, Leaves; Brassica Oleracea	
RM		B	Cu	Fe	Mn	Zn						
WU B236	mg/kg	19.1	3.93	72.8	906	36.3						
		Ca	Cl	K	Mg	N-Kj	Na	NO₃	P	S	30 g	
	mmol/kg	51.3	20.0	168	27.9	1076	9.61	-	39.9	38.8	Schottische Kiefer, Nadeln; Scots Pine, Needles; Pinus Silvestris	

CRM		Ca	Mg	N	K	Al	As	Ba	B	Cl	Cu	Pb	Mn	Hg	Mo	Ni	Se	Na	
3 1547	mg/kg	1.56%	0.432%	2.94%	2.43%	249	0.060	124	29	360	3.7	0.87	98	0.031	0.060	0.69	0.120	24	
		Sr	V	Zn	Sb	Br	Cd	Ce	Cr	Co	Eu	I	Fe	La	Rb	Sa	Sc	S	
		53	0.37	17.9	(0.02)	(11)	(0.03)	(10)	(1)	(0.07)	(0.17)	(0.3)	(220)	(9)	(19)	(1)	(0.04)	(0.2%)	
		Tb	Th	Sn	U	50 g	Pfirsichblätter; Peach Leaves												
		(0.1)	(0.05)	(<0.2)	(0.015)														
CRM		Ca	Mg	N	K	Al	As	Ba	B	Cl	Cu	Pb	Mn	Hg	Mo	Ni	Se	Na	
3 1515	mg/kg	1.526%	0.271%	2.25%	1.61%	286	0.038	49	27	579	5.64	0.470	54	0.044	0.094	0.91	0.050	24.4	
		Sr	V	Zn	Sb	Br	Cd	Ce	Cr	Co	Eu	I	Fe	La	Rb	Sa	Sc	S	
		25	0.26	12.5	(0.13)	(1.8)	(0.014)	(3)	(0.3)	(0.09)	(0.2)	(0.3)	(80)	(20)	(9)	(3)	(0.03)	(0.18%)	
		Tb	Th	Sn	U	P	Rb	50 g	Apfelblätter; Apple Leaves										
		(0.4)	(0.03)	(<0.2)	(0.006)	0.159%	10.2												
CRM		Ca	N	P	K	Al	Sb	As	B	Cd	Cr	Co	Cu	Fe	Mn	Hg	Ni	Rb	
3 1573a	mg/kg	5.05%	3.03%	0.216%	2.70%	598	0.063	0.112	33.3	1.52	1.99	0.57	4.70	368	246	0.034	1.59	14.89	
		Se	Na	V	Zn	50 g	Tomatenblätter; Tomato Leaves												
		0.054	136	0.835	30.9														
CRM		Ca	N	P	K	Na	Al	As	B	Cd	Co	Cu	Mn	Hg	Ni	Se	Sr	Th	
3 1570a	mg/kg	1.527%	5.90%	0.518%	2.903%	1.818%	310	0.068	37.6	2.89	0.39	12.2	75.9	0.030	2.14	0.117	55.6	0.048	
		V	Zn	N-Kj	Mg	S	60 g	Spinatblätter; Spinach Leaves											
		0.57	82	(5.74%)	(0.89%)	(0.46%)													
CRM		As	B	Ba	Cd	Cu	Fe	Hg	Mo	Ni	Sb	Sr	Tl	Zn	15 g				
H 679	mg/kg	0.0070	27.7	10.3	1.66	2.89	0.0550	0.0063	14.8	27.0	0.0206	11.8	0.00298	79.7	Weißkohl; White Cabbage				
CRM		Al	Ba	Ca	Cd	Cr	Cu	Fe	Hg	K	Mg	Mn	Na	Ni	Se	Sr	Zn	30 g	
AE 359	mg/kg	0.1	11	18500	0.12	1.3	5.67	148	0.013	32500	2160	31.9	580	1.05	0.12	49.2	38.6	Kohl Cabbage	
CRM		Al	As	B	Cd	Cl	Cu	Hg	Mn	Mo	N	Ni	Pb	S	Se	Zn	25 g		
H 062	mg/kg	450	(0.2)	(20)	0.10	(0.07%)	46.6	0.28	57.0	(0.2)	(1.95%)	(8)	25.0	(0.16%)	(0.1)	16.0	Olivenblätter Olive Leaves		

CRM		Ag	Al	As	B	Ba	Be	Bi	Br	Ca	Cd	Ce	Cl	Co	Cr	Cs	Cu	Dy
GB 07602	mg/kg	0.027	0.214%	0.95	34	19	0.056	(0.022)	2.4	2.22%	0.14	2.4	(1.13%)	0.39	2.3	0.27	5.2	-
GB 07603	mg/kg	0.049	0.20%	1.25	38	18	0.051	0.023	3.0	1.68%	(0.38)	2.2	(1.92%)	0.41	2.6	0.27	6.6	(0.13)
		Eu	F	Fe	Gd	Hf	Ho	K	La	Li	Lu	Mg	Mn	Mo	N	Na	Nd	Ni
		0.037	24	1020	-	0.14	-	0.85%	1.23	2.4	-	0.287%	58	0.26	1.20%	1.10%	(1.1)	1.7
		0.039	23	1070	(0.19)	(0.15)	(0.033)	0.92%	1.25	2.6	(0.011)	0.48%	61	0.28	1.50%	1.96%	1.0	1.7
		P	Pb	Pr	Rb	S	Sb	Sc	Se	Si	Sm	Sn	Sr	Tb	Th	Ti	U	V
		830	7.1	-	4.2	0.32%	0.078	0.31	0.184	0.58%	0.19	-	345	(0.026)	0.37	95	(0.11)	2.4
		1000	47	(0.24)	4.5	0.73%	0.095	0.32	0.12	0.60%	0.19	(0.27)	246	0.025	0.36	95	(0.12)	2.4
		W	Y	Yb	Zn	35 g												
		(0.06)	(0.63)	0.063	20.6	Buschzweige; Bush Branches												
		(0.06)	0.68	0.063	55	Buschblätter; Bush Leaves												
CRM		Ag	Al	As	B	Ba	Be	Bi	Br	Ca	Cd	Ce	Cl	Co	Cr	Cs	Cu	
GB 07604	mg/kg	(0.013)	0.104%	0.37	53	26	0.021	0.027	7.2	1.81%	0.32	0.49	(0.23)	0.42	0.55	0.053	9.3	
		Dy	Eu	F	Fe	Gd	Hf	Hg	K	La	Li	Mg	Mn	Mo	N	Na	Nd	
		(0.036)	0.009	22	274	(0.043)	(0.026)	0.026	1.38%	0.26	0.84	0.65%	45	0.18	2.56%	200	(0.22)	
		Ni	P	Pb	Rb	S	Sb	Sc	Se	Si	Sm	Sr	Th	Ti	U	V	Y	
		1.9	1680	1.5	7.6	0.35%	0.045	0.069	0.14	0.71%	0.038	154	0.07	20.4	(0.028)	(0.64)	0.145	
		Yb	Zn	35 g														
		0.018	37	Pappelblätter; Poplar Leaves														
CRM		Al	Ca	Cd	Cl	Cu	Fe	K	Mg	Mn	Mo	N	P	Pb	S	Zn	20 g	
H 100	mg/kg	0.0435%	0.530%	(0.34)	0.149%	(12.0)	(550)	0.994%	0.0878%	(0.13%)	(0.5)	2.629%	0.155%	(16.3)	0.269%	(69)	Buchenblätter Beech Leaves	
CRM		Al	Ca	Cd	Cl	Cr	Cu	Fe	K	Mg	Mn	Mo	N	P	Pb			
H 101	mg/kg	0.0173%	0.428%	(0.35)	0.0688%	(2.7)	(5.0)	(150)	(0.60%)	0.0619%	0.0915%	(0.3)	1.889%	0.169%	(2.6)			
		S	Zn	20 g														
		0.170%	0.00353%	Tannennadeln; Spruce Needles														
CRM		Al	Ba	Cd	Cl	Cu	Fe	Hg	Rb	Zn	P	K	Ca	Mg	As	B	Ce	
3 1575a	mg/kg	580	6.0	0.233	421	2.8	46	0.0399	16.5	38	0.107%	0.417%	0.25%	(0.106%)	(0.039)	(9.6)	(0.283)	
		Co	Pb	Mn	Ni	Sc	Se	Na	50 g									
		(0.061)	(0.167)	(488)	(1.47)	(0.0101)	(0.099)	(63)	Spurenelemente in Kiefernadeln; Trace Elements in Pine Needles									

CRM		As	Br	Cd	Ce	Co	Cs	Cu	Fe	Hg	K	Mn	Rb	Sb	Sc	Se	Sm	
AE 336	mg/kg	0.64	12.9	0.117	1.27	0.29	0.11	3.55	425	0.2	1840	64	1.72	0.073	0.17	0.22	0.106	
		Zn	Al	Ba	Ca	Cl	Cr	Eu	La	Mg	Na	P	Pb	Sr	Th	V	20 g;	
		31.5	(680)	(6.4)	(2600)	(1900)	(1.03)	(0.023)	(0.66)	(610)	(620)	(610)	(5)	(9.2)	(0.14)	(1.5)	Flechte; Lichen	
CRM		Al	As	Cd	Cr	Cu	Hg	Ni	Pb	Zn	15 g							
H 482	mg/kg	110	1515	(0.85)	0.56	4.12	7.03	0.48	2.47	40.9	100.6	Flechte; Lichen						
CRM		Ca	K	S	Al	As	Ba	Br	Cd	Ce	Co	Cr	Cs	Cu	Eu	La	Li	Mg
IJ CTA-OTL1	mg/kg	3.17%	1.56%	0.732%	1740	0.539	84.2	9.28	1.12	2.69	0.879	2.59	0.177	14.1	0.038	1.44	23.0	4470
		Mn	Ni	P	Pb	Rb	Se	Sm	Sr	Tb	Th	V	Zn	50 g				
		412	6.32	2892	4.91	9.79	0.153	0.229	201	0.032	0.348	3.08	49.9	Orienttabakblätter; Oriental Tobacco Leaves				
CRM		Ca	K	As	Ba	Br	Cd	Ce	Cl	Co	Cr	Cs	Cu	Fe	Hf	Hg	La	
IJ CTA-VTL2	mg/kg	3.60%	1.03%	0.969	42.7	4.3	1.52	1.91	0.743%	0.429	1.87	0.515	18.2	1083	0.118	0.048	1.01	23.0
		Li	Mg	Mn	Mo	Ni	P	Pb	Rb	Sb	Sm	Sr	Tb	Th	U	V		
		23.0	0.510%	79.7	2.01	1.98	2204	22.1	48.6	0.312	0.157	110	0.022	0.378	0.163	4.00		
		W	Zn	25 g														
		0.233	43.2	Virginia Tabakblätter; Virginia Tobacco Leaves														
CRM		Ca	Mg	K	N	Cl	P	Mn	Cu	Zn	Fe	B	Nicotin(e)	Sugar(tot)	25 g			
CI ZC76007	mg/kg	3.00%	0.51%	2.39%	1.72%	0.77%	0.229%	93.9	16.4	28.6	962	22.0	1.72	18.8	Tabak			
CI ZC76008	mg/kg	4.30%	0.74%	3.31%	3.56%	0.98%	0.258%	236	17.4	36.2	966	41.6	3.84	1.8	Tobacco			
CRM		Ba	Br	Ca	Cd	Co	Cr	Cu	Fe	Hg	Mg	Mo	Ni	P	Pb	Rb	Sc	Sr
AE V10	mg/kg	6	8	2.16%	0.03	0.13	6.5	9.4	0.0185%	0.013	0.136%	0.9	4.0	0.23%	1.6	7.6	0.014	40
		Zn	Al	Sb	Cs	Eu	Hf	La	Mn	Sa	Se	Th	K	Na	50 g			
		24	(47)	(0.020)	(0.017)	(0.0024)	(0.00989)	(0.07)	(47)	(0.02)	(0.022)	(0.013)	(2.1%)	(0.05%)	Heupulver; Hay Powder			
CRM		C	Ca	Cu	Fe	H	I	K	Mg	Mn	Mo	N	P	S	Se	Zn	N-Kj	30 g
H 129	mg/kg	(4.52%)	0.640%	(10)	(0.0114%)	(6.3%)	0.167	3.38%	0.145%	(70)	(1)	3.72%	0.236%	0.316%	(0.025)	32.1	3.42%	Heu Hay

CRM		Ag	Al	As	B	Ba	Be	Bi	Br	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Eu	
GB 07605	mg/kg	(0.018)	(0.30%)	0.28	15	58	0.034	0.063	3.4	0.43%	0.057	1.0	0.18	0.80	0.29	17.3	(0.074)	0.018	
		F	Fe	Gd	Hf	Hg	Ho	K	La	Li	Lu	Mg	Mn	Mo	N	Na	Nd	Ni	
		320	264	(0.093)	(0.033)	(0.013)	(0.019)	1.66%	0.60	(0.36)	(0.007)	0.17%	1240	0.038	3.32%	44	(0.44)	4.6	
		P	Pb	Pr	Rb	S	Sb	Sc	Se	Si	Sm	Sr	Tb	Th	Ti	V	Y		
		1840	4.4	(0.12)	74	0.245%	0.056	0.085	(0.072)	(0.21%)	0.085	15.2	(0.011)	0.061	24	(0.86)	0.36		
		Yb	Zn	35 g															
		0.044	26.3	Tee; Tea															
CRM		As	Ba	Cd	Ce	Cu	Fe	La	Mn	Na	Ni	Pb	Rb	Sb	Se	Sr	Th	Zn	
GB 08513	mg/kg	0.180	120	0.023	1.58	8.96	347	1.12	0.217%	139	5.09	1.00	16.2	0.036	0.040	52.4	0.104	22.6	
		Ca	Mg	K	N	P	S	Br	Co	Cr	Cs	Hg	Sc	Sm	Ti	35 g			
		0.800%	0.276%	0.863	2.89%	0.148%	0.222%	(2)	(0.18)	(2)	(0.1)	(0.017)	(0.18)	(0.18)	(37)	Teeblätter; Tea Leaves			
CRM		Al	As	Ba	Br	Ca	Cd	Cl	Co	Cr	Cs	Cu	Eu	Hg	K	La	Lu	Mg	
IJ INCI-TL1	mg/kg	0.229%	0.106	43.2	12.3	0.582	0.030	573	0.387	1.91	3.61	20.4	0.050	0.005	1.70%	1.00	0.016	0.224%	
		Mn	Na	Ni	Pb	Rb	Sc	Sm	Sr	Tb	Th	Tl	V	Yb	Zn	50 g			
		0.157%	24.7	6.12	1.78	81.5	0.266	0.177	20.8	0.026	0.034	0.063	1.97	0.118	34.7	Teeblätter; Tea Leaves			
CRM		Al	As	Ba	Br	Ca	Cd	Ce	Cl	Co	Cr	Cs	Cu	Eu	Hf	Hg	K		
IJ INCI-MPH2	mg/kg	670	0.191	32.5	7.71	1.08%	0.199	1.12	0.284%	0.210	1.69	0.076	7.77	0.016	0.236	0.018	1.91%		
		La	Lu	Mg	Mn	Nd	Ni	Pb	Rb	S	Sb	Sc	Sm	Sr	Ta	Tb			
		0.571	0.009	0.292%	191	0.457	1.57	2.16	10.7	0.241%	0.066	0.123	0.094	37.6	0.019	0.014			
		Th	V	Yb	50 g														
		0.154	0.952	0.053	Polnische Kräuter, gemischt; Mixed Polish Herbs														

CRM		As	Cd	Ca	Cl	Cr	Cu	Fe	Pb	Mg	Mn	Hg	Ni	P	K	Se		
H 191	mg/kg	(0.023)	0.0284	(410)	(1.65%)	(0.068)	2.6	40.7	0.187	(0.05%)	20.3	(0.002)	(0.440)	(0.21%)	(0.31)	(0.025)		
		Na	Zn	40 g														
		(1.0%)	19.5	Graubrot; Brown Bread														
CRM CI ZC80002	mg/kg	K	As	Ca	Cd	Cu	Fe	Mg	Mn	Pb	Zn	N	P	Na	Se	40 g Weizenmehl; Wheat Flour		
		0.198%	0.22	441	0.031	4.40	39.8	551	19.6	0.35	22.7	(2.39%)	(0.15%)	(10.0)	(0.10)			
CRM		Ca	Cl	K	Mg	P	100 g											
H 382	mg/kg	(1510)	(1460)	(1750)	(210)	(1140)	Weizenmehl; Wheat Flour									Nutritional Properties as per Certificate		
CRM		Al	As	Br	Ca	Cd	Cl	Co	Cu	I	Fe	Pb	Mg	Mn	Hg	Mo	P	K
3 1567a	mg/kg	5.7	(0.006)	(6)	0.0191%	0.026	(565)	(0.006)	2.1	(0.0009)	14.1	(<0.020)	0.040	9.4	(0.0005)	0.48	0.134%	0.133%
		Rb	Se	Na	S	Sn	U	V	Zn	80 g								
		0.68	1.1	6.1	0.165%	(0.0033)	(0.0003)	(0.011)	11.6	Weizenmehl; Wheat Flour								
CRM		Ca	Cd	Cu	Fe	K	Mg	Mn	P	Pb	Zn	As	Hg	Sr	40 g			
IR P-WBF	mg/kg	292	0.0415	2.77	23.8	2550	556	22.6	2280	0.041	17.9	(0.017)	(0.00272)	(1.53)	Weizenmehl; Wheat Flour			
IR P-RBF	mg/kg	234	10.2	2.43	20.8	2670	407	18.0	1710	0.0910	16.0	-	0.00242	1.19	Roggenmehl; Rhye Flour			
CRM		Ca	Cl	K	Mg	Na	P	100 g										
H 381	mg/kg	220	460	2850	430	19	(1620)	Roggenmehl; Rye Flour										Nutritional Properties as per Certificate
CRM		Br	Ca	Cl	Cu	Fe	K	Mg	Mn	P	Rb	Zn	50 g					
AE V8	mg/kg	0.38	149	570	0.95	4.1	0.193%	121	2.06	592	0.48	2.53	Roggenmehl; Rye Flour					

CRM		Al	Sb	As	Br	Cd	Ca	Cl	Co	Cu	I	Fe	Pb	Mg	Mn	Hg	Mo	Ni
3 1568a	mg/kg	4.4	(0.0005)	0.29	(8)	0.022	0.011%	(300)	(0.018)	2.4	(0.009)	7.4	(<0.010)	0.056%	20.0	0.0058	1.46	(0.16)
		P	K	Rb	Se	Na	S	Tl	Sn	U	V	Zn	80 g					
		0.153%	0.1280%	6.14	0.38	6.6	0.120%	(<0.002)	(0.0047)	(0.0003)	(0.007)	19.4	Reismehl; Rice Flour					
CRM		Al	As	Br	Cd	Ca	Cl	Cr	Co	Cu	Fe	Mg	Mn	Hg	Mo	Ni	P	K
NJ 10a	mg/kg	(3)	(0.17)	(0.3)	0.023	93	(260)	(0.07)	(0.02)	3.5	12.7	0.134%	34.7	(0.004)	0.35	0.19	0.34%	0.28%
NJ 10b	mg/kg	(2)	(0.11)	(0.5)	0.32	78	(310)	(0.22)	(0.02)	3.3	13.4	0.131%	31.5	(0.003)	0.42	0.39	0.315%	0.245%
NJ 10c	mg/kg	(1.5)	(0.15)	(0.5)	1.82	95	(230)	(0.08)	(0.007)	4.1	11.6	0.125%	40.1	(0.005)	1.6	0.3	0.335%	0.275%
		Rb	Se	Na	Sr	Zn	3x60 g											
		4.5	(0.06)	10.2	(0.3)	25.2	Reismehl, unpoliert											
		3.3	(0.02)	17.8	(0.3)	22.3	Rice Flour, unpolished											
		5.7	(0.07)	14.0	(0.2)	23.1												

CRM		Al	Sb	As	Br	Cd	Ca	Cl	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	N	P	
3 1577b	mg/kg	(2)	(0.003)	0.047	(9)	0.44	120	0.28%	0.21	158	194	0.135	600	9.9	0.004	3.5	(10.7%)	1.11%	
		K	Rb	Se	Ag	Na	Sr	S	Tl	U	V	Zn	50 g						
		0.996%	12.5	0.71	0.04	0.234%	0.138	0.78	(0.003)	0.00071	0.099	123	Rinderleber, gefriergetr.; Bovine Liver, freeze dried						
CRM		As	Cd	Cu	Mn	Pb	Se	Zn	15 g										
H 185R	mg/kg	0.033	0.544	277	11.07	0.172	1.680	138.6	Rinderleber; Bovine Liver										
CRM		Zn	Fe	Ca	Mg	Cu	Rb	Mo	Mn	Pb	Co	Cd	Ag	As	Se	Sr	Br	Hg	
CI ZC85005	mg/kg	165	452	185	664	96.7	23.6	3.97	9.08	0.371	0.196	0.160	0.030	0.067	0.492	1.03	3.85	0.022	
		Be	Ba	La	Sb	Cl	Na	S	P	K	N	30 g							
		0.0043	4.73	0.027	0.013	0.256	0.208	0.752	1.23	1.00	10.4	Rinderleber; Beef Liver							
CRM		As	Ca	Cd	Cl	Cr	Cu	Fe	Hg	I	K	Mg	Mn	Na	Ni	P	Pb		
H 186	mg/kg	0.063	(295)	2.71	0.94%	(0.058)	31.9	299	1.97	(0.145)	(1.26%)	(829)	8.5	(0.71)	(0.42)	(1.22%)	0.306		
		Se	Zn	15 g															
		10.30	128	Schweineniere, Pulver, gefriergetr.; Pig Kidney, Powder, lyophil.															
CRM		As	Ca	Cd	Cl	Cr	Cu	Fe	Hg	I	K	Mg	Mn	Na	Ni	P	Pb		
H 184	mg/kg	(0.026)	(150)	0.013	(0.2%)	(0.076)	2.36	79	0.0026	(0.04)	(1.66%)	(1020)	334	(0.20%)	(0.27)	(0.83%)	0.239		
		Se	Zn	15 g															
		0.183	166	Rindermuskel, Pulver, gefriergetr.; Bovine Muscle, Powder, lyophil.															
CRMs H 184, H 185R und H 186 - Werte für Protein, Fett, Asche und Feuchtigkeit siehe Zertifikat																			
- Values for Protein, Fat, Ash and Moisture see Certificate																			
RM		Al	As	B	Br	Cd	Ca	Cl	Cr	Co	Cu	I	Fe	Pb	Mg	Mn	Hg		
3 8414	mg/kg	1.7	0.009	0.6	1.1	0.013	145	1880	0.071	0.007	2.84	0.035	71.2	0.38	960	0.37	0.005		
		Mo	Ni	N	P	K	Rb	Se	Na	Sr	S	Zn	50 g						
		0.08	0.05	137500	8360	15170	28.7	0.076	2100	0.052	7950	142	Rindermuskelpulver; Bovine Muscle Powder						

CRM		Ca	K	Mg	Na	P	50 g		
H 384	mg/kg	230	15530	1000	2820	(8510)	Schweinemuskel, gefriergetr.;	Pork Muscle, lyophil.	Nutrional Properties as per Certificate

CRM		K	Na	P	Ca	Fe	Cu	Zn	Mg	Rb	Se	Mn	N	Cl	Br	20 g
GB 08552	mg/kg	1.4%	0.202%	0.813%	147	43.6	3.88	94.2	988	42.7	0.49	0.48	12.27%	0.187%	6.2	Schweinemuskel Porc Muscle

CRM		Ca	P	Fe	Na	K	1 Dose/1 can 200 g
SM RD2000	mg/kg	70.3	1075	6.33	8533	1859	Frischfleisch; Fresh Meat

Werte für Feuchtigkeit, Asche, Fett, Stickstoff, Protein, Hydroxyproline, Stärke, Lactose und Salz im Zertifikat, bitte anfragen
Values for Moisture, Ash, Fat, Nitrogen, Protein, Hydroxyproline, Starch, Lactose and Salt in Certificate, please inquire

CRM		Pb	Cd	1.1 g
H CE194	ug/l	126	0.5	Rinderblut, gefriergetr.
H CE195	ug/l	416	5.37	Lyophilized Bovine Blood
H CE196	ug/l	772	8.84	

CRM		Pb	Cd	Satz/Set, 2 Amp.
GB 09139	ug/l	111	1.58	Rinderblut, gefriergetr.
GB 09140	ug/l	357	6.54	Bovine Blood, freeze dried

CRM		Se	Satz/Set, 2 Amp.
GB 09141	ug/l	99.0	Rinderblut, gefriergetr.
GB 09142	ug/l	981	Bovine Blood, lyophil.

SERIE KL 0100: Aktuelle Konzentrationen bitte erfragen, Auswahl von 4 Proben aus dem gesamten Konzentrationsbereich möglich.
Nachstehende Konzentrationen sind nominale Werte typischer Konzentrationen

SERIES KL 0100: Please ask for current concentrations, selection of 4 samples from whole range of concentrations possible.
Concentrations listed below are nominal values of typical concentrations.

RM		Pb	5x2 ml
KL BOV0100A(L)	ug/dl (1ug/dl=0.04826umol/l)	5, 10, 15 + 20	Pb in Rinderblut; Pb in Bovine Blood
KL BOV0100A(M)	ug/dl	25, 30, 40 + 50	
KL BOV0100A(H)	ug/dl	60, 70, 80 + 90	
KL BOV0100AC	ug/dl	5, 10, 15, 20, 30, 40, 50, 70, 80 + 90	Satz/Set 15x2 ml (5xL, 5xM + 5xH)

CRM		F	5x4 ml
GB 09143	ug/l	1.03	Rinderserum
GB 09144	ug/l	5.07	Cattle Serum

CRM		Br	Ca	Fe	K	Mg	Na	P	Rb	Zn	50 g							
AE 153	mg/kg	12.3	1.29%	2.53	1.76%	0.106%	0.418%	1.01%	14.0	39.6	Milchpulver; Milk Powder							
CRM		Ca	Cl	Cu	Fe	I	K	Pb	Mg	Mo	N	N-Kj	Na	P	Zn	50 g		
H 063R	mg/kg	1.349%	0.994%	0.602	2.32	0.81	1.768%	0.0185	0.1263%	(0.33)	6.23%	(6.087%)	0.437%	1.110%	49.0	Magermilchpulver, natürl. Skim Milk Powder, natural		
CRM		Cd	Cu	I	Fe	Pb	Mn	Hg	Ni	Se	Tl	Zn	30 g					
H 150	mg/kg	0.0218	2.23	1.29	11.8	1.000	(236)	0.0094	(0.0615)	(0.127)	(0.0010)	(49)	Magermilchpulver, dotiert; Skim Milk Powder, spiked					
CRM		Cd	Cu	I	Fe	Pb	Mn	Hg	Ni	Se	Tl	Zn	30 g					
H 151	mg/kg	0.101	5.23	5.35	50.1	2.002	(223)	0.101	(0.056)	(0.125)	(0.0008)	(50)	Magermilchpulver, dotiert; Skim Milk Powder, spiked					
CRM		Br	Cd	Cl	Co	Cr	Cs	Hg	Mg	Mn	Na	Ni	P	Pb	Rb	Sc		
AE 155	mg/kg	39.1	0.0160	6.92%	0.0427	0.59	0.086	0.0026	0.319%	9.30	15.82	0.54	1.621%	0.104	39.2	0.028		
		Se	Zn	50 g														
		0.064	34.3	Molkepulver; Whey Powder														
CRM		Se	Zn	Fe	As	K	Na	Ca	Cu	Mn	Pb	Mg	N	P	Cl	Hg	S	
GB 08509	mg/kg	0.22	46.8	5.18	0.031	1.86%	0.526%	1.22%	0.26	0.28	0.034	0.130%	5.51%	1.07%	1.12%	(0.0005)	(0.333%)	
		Rb	Br	50 g														
		(18)	(15)	Magermilchpulver; Non Fat Milk Powder														
CRM		Al	Sb	As	Br	Cd	Ca	Cl	Cr	Co	Cu	F	I	Fe	Pb	Mg	Mn	Hg
3 1549	mg/kg	(2)	(0.00027)	(0.0019)	(12)	0.0005	1.30%	1.09%	0.0026	(0.0041)	0.7	(0.20)	3.38	1.78	0.019	0.120%	0.26	0.0003
		Mo	P	K	Rb	Se	Ag	Na	S	Sn	Zn	100 g						
		(0.34)	1.06%	1.69%	(11)	0.11	(<0.0003)	0.497%	0.351%	(<0.02)	46.1	Magermilchpulver; Non-fat Milk Powder						

CRM		Al	As	B	Cd	Cl	Cu	Hg	Mn	Mo	N	Ni	Pb	S	Se	Zn	Al ₂ O ₃	CaO	
H 060	mg/kg	4180	(8)	(25)	2.20	(1.0%)	51.2	0.34	1759	(2)	4.12%	(40)	63.8	(0.52%)	(0.7)	313	(1.16%)	(4.33%)	
		Fe ₂ O ₃	K ₂ O	MgO	Na ₂ O	P ₂ O ₅	SiO ₂	TiO ₂	25 g	Wasserpflanze; Aquatic Plant (Lagarosiphon major)									
		(0.34%)	(1.37%)	(1.00%)	(0.90%)	(1.18%)	(6.10%)	(0.04%)											
CRM		Ce	Dy	Er	Eu	Gd	Ho	La	Lu	Nd	Pr	Sc	Sm	Tb	Th	Tm			
H 670	ng/kg	987	78.9	44.0	23.2	97.8	15.8	487	6.33	473	121	191	94.2	14.0	159	5.70			
		U	Y	Yb	10 g	Wasserpflanze; Water Plant (Lemna Minor)													
		81.7	462	39.9															
CRM		Cr	25 g																
H 596	mg/kg	36.3	Wasserpflanze; Aquatic Plant (trapa natans)																
CRM		As	Ca	Cd	Cl	Cr	Cu	Fe	Hg	I	K	Mg	Mn	N	P	Pb			
H 279	mg/kg	3.09	(2.7%)	0.274	(2.5%)	(10.7)	13.14	(0.24%)	(0.05)	(154)	(1.3%)	(1.4%)	(0.209%)	(2.08%)	(0.180%)	13.48			
		Se	Zn	35 g															
		0.593	51.3	Wassersalat; Sea Lettuce (Ulva Lactuva)															
CRM		Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Na	P	Pb	Zn	Al	Ba	Hg	Mo	
IR 12-2-02	mg/kg	539	0.0448	19.9	2.37	19.6	339	1.81%	1.09%	32.8	163	1.73%	1.23	40.2	(29.4)	(7.29)	(0.0239)	(2.28)	
		Ni	S	Br	25 g														
		(1.23)	(0.313%)	(1.46)	Grünalge; Green Algae														
CRM		Ca	Cd	Co	Cu	Fe	K	Mg	Mn	P	Pb	Sc	Sr	Zn	36 g				
NJ 03	mg/kg	0.49%	(0.026)	0.87	3.5	0.185%	1.24%	0.33%	69	(1.7%)	(0.60)	(0.013)	40	20.5	Grünalge; Green Algae (Clorella)				
CRM		Ag	Al	As	Br	Ca	Cd	Cl	Co	Cr	Cs	Cu	Fe	Hg	I	K	Mg	Mn	
NJ 09	mg/kg	0.31	(215)	115	(270)	1.34%	0.15%	(5.1%)	0.12	(0.2)	(0.04)	4.9	187	(0.04)	(520)	6.10%	0.65	21.2	
		Na	P	Pb	Rb	S	Sb	Sc	Se	Sr	Ti	U	V	Zn	10 g				
		1.70%	(0.26%)	1.35	24	(1.2%)	(0.04)	(0.09)	(0.05)	0.100%	(9)	(0.4)	1.0	15.6	Sargassotang; Sargasso Seaweed (Sargassum Fulvellum)				

CRM		As	Cd	Co	Cr	Cu	Fe	Hg	K	Mn	Mo	Ni	Pb	Sc	Se	Sr			
H 414	mg/kg	6.82	0.383	(1.43)	23.8	29.5	(1.85)	0.276	(0.755%)	299	(1.35)	18.8	3.97	(0.54)	1.75	(261)			
		V	Zn	5 g															
		8.23	112	Plankton, Spuren; Trace Elements in Plankton															
CRM		Na	K	Mg	Ca	Fe	Zn	Sr	Mn	Cu	As	Cd	Se	Ni	Pb	Co	Cr	Hg	
GB 08571	mg/kg	0.582%	0.424%	0.197%	0.111%	221	138	12.8	10.2	7.7	6.1	4.5	3.65	1.03	1.96	0.94	0.57	0.067	
		P	Al	Mo	Au	12 g													
		(1.35%)	(231)	(0.6)	(0.1)	Muschel; Mussel													
CRM		As	Cd	Cu	Fe	Pb	Se	Zn	Hg	Hg-Me	25 g								
3 2976	mg/kg	13.3	0.82	4.02	171	1.19	1.80	137	27.8	61.0	Muschelgewebe; Mussel Tissue								
CRM		Ce	Dy	Er	Eu	Gd	La	Lu	Nd	Pr	Sm	Tb	Th	Tm	U	Y	10 g		
H 668	ug/kg	88.7	8.88	4.47	2.79	12.95	80.3	0.389	54.5	12.3	11.2	1.62	10.7	0.480	55.9	58.9	Muschelgewebe Mussel Tissue		
CRM		As	Cd	Cr	Cu	Hg	Mn	Pb	Se	Zn	8 g								
H CE278	mg/kg	6.07	0.348	0.78	9,45	0.196	7.69	2.00	1.84	83.1	Muschelgewebe; Mussel Tissue								
CRM		Ca	Cl	Mg	K	Na	S	Al	As	Cd	Co	Cu	Fe	Pb	Mn	Hg	Hg-Me		
3 1566b	mg/kg	0.0838%	0.514%	0.1085%	0.652%	0.3297%	0.6887%	197.2	7.65	2.48	0.371	71.6	205.8	0.308	18.5	0.0371	0.0132		
		Ni	Rb	Se	Ag	Th	V	Zn	25 g										
		1.04	3.262	2.06	0.666	0.0367	0.577	1424	Austerngewebe; Oyster Tissue										
CRM		Ca	Cl	Mg	K	Na	S	N	Zn	P	Cu	Pb	V	Cd	Ni	Cr	Fe	Co	
CI ZC85007	mg/kg	0.33%	1.97%	0.27%	0.50%	1.19%	1.14%	9,10%	0.19%	0.68%	139.7	0.84	1.02	4.56	1.05	0.90	370.9	0.33	
		Mn	Al	Sr	Ag	As	Se	Rb	Br	La	Ce	Sm	Sc	Th	U	Hg	Cs	15 g	
		49.4	374.2	22.9	3.32	6.67	4.37	2.31	101.1	0.32	0.44	0.041	(0.081)	(0.068)	(0.14)	(0.052)	(0.053)	Auster Oyster	
CRM		Sn	Sn-Tributyl	Sn-Triphenyl	20 g														
NJ 11	mg/kg	2.4	1.3	(6.3)	Fischgewebe; Fish Tissue														

CRM		As	Br	Ca	Cd	Co	Cu	Fe	Hg	I	K	Mg	Mn	Na	Pb	S	Se	
H 422	mg/kg	21.1	(17)	(33.0%)	0.017	(0.015)	1.05	5.46	0.564	4.97	(2.1713%)	(0.1373%)	0.543	(0.2194%)	0.080	(1.1474%)	1.63	
		Sr	Zn	Hg-Me	7 g													
		(0.658)	19.6	(0.43)	Dorschmuskel, Spuren; Trace Elements in Cod Muscle													
CRM		Al	As	Cd	Co	Cr	Cu	Fe	Pb	Mn	Hg	Ni	Se	Ag	Th			
NC DORM2	mg/kg	10.9	18.0	0.043	0.182	34.7	2.34	142	0.065	3.66	4.64	19.4	1.40	0.041	(0.004)			
		Sn	Zn	Hg-Me	30 g													
		(0.023)	25.6	4.47	Haimuskel; Dogfish Muscle													
CRM		Ag	As	Cd	Cu	Fe	Hg	Ni	Pb	Se	Zn	Cr	Sn	Hg-Me	25 g			
NC DOLT3	mg/kg	1.20	10.2	19.4	31.2	1484	3.37	2.72	0.32	7.06	86.6	(3.5)	(0.4)	1.59	Haileber; Dogfish Liver			
CRM		As	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Hg-Me	Ni	K	Ag	Se	
NC LUTS1	mg/kg	2.83	2.12	203	0.079	0.051	15.9	11.6	0.010	89.5	1.20	0.0167	0.0094	0.200	948	0.580	0.641	
		Sr	Zn	6x10 g														
		948	12.4	Hummer, nicht entfettet; Lobster, non defatted (Hepatopancreas)														
CRM		As	Cd	Co	Cr	Cu	Fe	Hg	Hg-Me	Mn	Mo	Ni	Pb	Se	Sr	V	Zn	35 g
NC TORT2	mg/kg	21.6	26.7	0.51	0.77	106	105	0.27	0.152	13.6	0.95	2.50	0.35	5.63	45.2	1.64	180	Hummer Lobster

CRM		Hg	Hg(Me)	Fe	Zn	Ca	Cu	Mg	Mn	Sc	Se	5 g						
AE 085	mg/kg	23.2	22.9	79.3	163	(930)	(17)	(140)	(8.8)	(0.009)	(1.1)	Menschl. Haar, dotiert; Human Hair, spiked						
AE 086	mg/kg	0.573	0.258	123	167	(1120)	(17.6)	(180)	(9.6)	(0.014)	(1.0)	Menschl. Haar, nicht dotiert; Human Hair, unspiked						
CRM		Zn	Se	Cr	Mg	Mn	As	Ca	Fe	Cu	Sr	Hg	Na	Pb	Ni	Cd	Al	Co
CI ZC81002b	mg/kg	191	0.59	8.74	248	3.83	0.198	1537	160	33.6	8.17	1.06	444	3.83	5.77	0.072	23.2	0.153
CRM		Mo	Br	Sb	K	Ag	Ba	P	I	V	Cl	La	Ti	7 g				
		1.06	(0.59)	0.12	(14.4)	0.037	11.1	174	0.96	(0.089)	(48.2)	(0.029)	(2.10)	Menschl. Haar; Human Hair				
CRM		Ag	As	Au	B	Ba	Be	Bi	Br	Ca	Cd	Ce	Co	Cr	Cu	Dy	Eu	Fe
GB 07601	mg/kg	0.029	0.28	(0.0025)	(1.3)	17	0.063	0.34	(0.36)	0.29%	0.11	0.12	0.071	0.37	10.6	(0.017)	(0.006)	54
CRM		Hg	K	La	Li	Mg	Mn	Mo	N	Na	Ni	P	Pb	S	Sb	Sc	Se	Si
		0.36	(20)	0.049	2.0	360	6.3	0.073	14.9%	152	0.83	170	8.8	4.3%	0.095	0.008	0.60	870
CRM		Sm	Sr	Ti	Y	Zn	20 g											
		(0.012)	24	2.7	0.08	190	Pulv. menschl. Haar; Human Hair Powder											
CRM		As	Cd	Cu	Hg	Ni	Pb	Se	Zn	3 g								
H 397	mg/kg	(0.31)	0.521	(0.11)	12.3	(46.0)	33.0	2.00	199	Menschl. Haar, Spuren; Trace Elements in Human Hair								
CRM		Pb	Cd	Cr	Mn	3 ml												
AM B17001	umol/l	0.28	12	15	165	Tox. Elemente in menschl. Blut												
AM B17002	umol/l	0.97	56	45	319	Tox. Elements in Human Blood												
AM B17003	umol/l	2.30	103	90	829													

SERIE KL 0100 + 0141: Aktuelle Konzentrationen bitte erfragen, Auswahl von 4 Proben aus dem gesamten Konzentrationsbereich möglich.
 Nachstehende Konzentrationen sind nominale Werte typischer Konzentrationen
 SERIES KL 0100 + 0141: Please ask for current concentrations, selection of 4 samples from whole range of concentrations possible.
 Concentrations listed below are nominal values of typical concentrations.

RM		Pb	5x2 ml			
KL 0100A(L)	ug/dl (1ug/dl=0.04826umol/l)	5, 10, 15 + 20	Pb in menschl. Blut; Pb in Human Blood			
KL 0100A(M)	ug/dl	25, 30, 40 + 50				
KL 0100A(H)	ug/dl	60, 70, 80 + 90				
KL 0100AC	ug/dl	5, 10, 15, 20, 30, 40, 50, 70, 80 + 90	Satz/Set 15x2 ml (5xL, 5xM + 5xH)			
RM		As	Cd	Hg	Pb	4x5 ml
KL 0141	ug/l	20-600	1-40	20-80	5-50	Schwermetalle in menschl. Blut; Heavy Metals in Human Blood

CRM		Ca	Mg	Li	5 ml
H 304	mmol/l	2.201	1.85	0.985	Menschl. Serum, gefriergetr.; Lyophilized Human Serum

CRM		Mg	Cu	Zn	Ca	Fe	K	Na	Cl	P	Pb	0.2 g
GB 09135	mg/kg	20.4	1.05	1.03	85.5	1.3	178	3120	108	108	(0.17)	Menschl. Serum; Human Serum

CRM		Al	Cr	Mn	Fe	Co	Cu	Zn	As	Se	Br	Rb	Mo	Cd	Cs	Hg	Li
UZ Serum	mg/kg	0.0207	0.00076	0.0077	25.9	0.0036	11.1	9.6	0.0196	1.05	48.8	1.85	0.0075	0.0020	0.0100	0.0066	(0.0175)
		V	Ni	Sr	Sn	100 mg/200 mg/l g/2 g/4 g											
		(0.00065)	0.0025)	(0.25)	(0.0085)	Menschl. Serum, gefriergetr.; Freeze-Dried Human Serum											

Die nachstehend angegebenen Konzentrationen sind typische Werte für die Konzentrationsbereiche I = niedrig oder II = hoch.
Kundenspezifische Konzentrationen können angeboten werden.

The concentration data listed below are typical for the levels I = low or II = high ; custom made concentrations can be supplied as well.

RM		Cu	Fe	Zn	4x5 ml
KL 0146(I)	ng/dl	70	100	80	Metallspuren in menschl. Serum
KL 0146(II)	ng/dl	220	220	240	Metal Traces in Human Serum

Weitere Kontrollproben auf Anfrage/Further control samples on request: KL 147KL: Al, Mg + Mn - KL 0148: Be, Co, Cr, Ni + Se

CRM F 30 ml/2xLL-2xHL(set of 4)

3 2671aLL	mg/l	0.55	Fluorid in Urin, gefriergetrocknet	LL - Low Level
3 2671aHL	mg/l	5.7	Fluoride in Freeze-Dried Urine	HL - High Level

CRM F 0.6 g

GB 09106	mg/l	0.62	Fluorid in Urin, gefriergetrocknet
GB 09107	mg/l	5.3	Fluoride in Lyophilized Urine

CRM Pb 1.04 g

GB 09104a	mg/l	0.252	Blei in Urin, gefriergetrocknet
GB 09105a	mg/l	0.404	Lead in Freeze-Dried Urine

CRM Hg 30 ml/2xLL-2xHL(set of 4)

3 2672aLL	mg/l	(0.002)	Quecksilber in Urin, gefriergetrocknet
3 2672aHL	mg/l	0.105	Mercury in Freeze-Dried Urine

SERIE KL 0110 + 0140: Aktuelle Konzentrationen bitte erfragen, Auswahl von 4 Proben aus dem gesamten Konzentrationsbereich möglich.
Nachstehende Konzentrationen sind nominale Werte typischer Konzentrationen

SERIES KL 0110 + 0140: Please ask for current concentrations, selection of 4 samples from whole range of concentrations possible.
Concentrations listed below are nominal values of typical concentrations.

RM		Pb	4x5 ml	
KL 0110A(L)	ug/dl (1ug/dl=0.04826umol/l)	15 + 25		Pb in menschl. Urin
KL 0110A(M)	ug/dl	50 + 85		Pb in Human Urine
KL 0110A(H)	ug/dl	85 + 110		

RM		As	Cd	Hg	Pb	4x5 ml	
KL 0140(I)	ug/l	20	4	10	15mg/dl		Schwermetalle in menschl. Urin
KL 0140(II)	ug/l	40	8	25	50mg/dl		Heavy Metals in Human Urine

Weitere Kontrollproben auf Anfrage/Further control samples on request: Be, Co, Cr, Ni + Se

CRM		Ba	Ca	Cl	Cr	Cu	Hg	Mg	Mn	Mo	Na	Ni	Pb	Sr	25 g
AE V9	mg/kg	9	240	600	0.11	0.59	0.06	53	0.15	0.034	56	0.09	0.25	0.65	Baumwollzellulose; Cellulose, Cotton

CRM		Al	As	Ca	Cd	Cl	Cs	Cu	Fe	I	Mg	Mn	Na	Ni	P	S	Se
3 1548a	mg/kg	72.4	0.20	1967	0.035	12078	0.0098	2.32	35.3	0.759	580	5.75	8132	0.369	3486	1928	0.245
		Sn	Zn	2x5.6 g													
		17.2	24.61	Typ. Nahrung, Spuren; Typical Diet, traces													

CRM		Al	As	Br	Ca	Cd	Cl	Co	Cr	Cu	Fe	Hg	K	Mg	Mn	Na	Ni
MB TY3	mg/kg	(13.3)	(0.09)	(0.82)	(0.320%)	0.084	(0.091%)	0.199	87.8	52.8	162	0.029	1.85%	0.247%	4.77	0.172%	0.75
MB TY4	mg/kg	(20.6)	(0.13)	(1.49)	(0.714%)	0.133	(0.185%)	0.298	221	42.1	156	0.044	1.67%	(0.227%)	3.85	0.258%	(1.00)
		P	Pb	Rb	Sb	Se	Zn	25 g									
		1.80%	(0.23)	6.93	0.102	(0.03)	226	Hefe									
		1.64%	(0.26)	7.43	0.089	(0.03)	266	Yeast									

CRM		Se(tot)	Selenomethionine	Methionine	8 g
NC SELM1	mg/kg	2059	3431	5758	Hefe, Se-angereichert; Selenium enriched Yeast

CRM		Ca	Fe	K	Mg	N	Na	P	S	10 g
H 273	mg/kg	1.197	156	0.222%	(0.27%)	12.16%	(44)	2.68%	(1.02%)	Single Cell Protein, Matrix Elements

CRM		As	Cd	Co	Cu	F	I	Mn	Ni	Pb	Se	Zn	10 g
H 274	mg/kg	0.132	0.030	0.003	13.1	(17.6)	(0.021)	51.9	(0.300)	0.044	1030	42.7	Single Cell Protein, Trace Elements

CRM		Al	Sb	As	Ba	Be	B	Cd	Cr	Co	Fe	Pb	Mn	Mo	Se	Ag			
3 1640	ug/kg	52.0	13.79	26.67	148.0	34.94	301.1	22.79	38.6	20.28	34.3	27.89	121.5	46.75	21.96	7.62			
		Sr	V	250 ml															
		124.2	12.99	Natürliches Wasser, Spurem; Trace Elements in Natural Water															
CRM		Al	Sb	As	Ba	Be	Bi	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	
3 1643e	ug/l	141.8	58.30	60.45	544.2	13.98	14.09	157.9	6.568	32300	20.40	27.06	22.76	98.1	19.63	17.4	8037	38.97	
		Mo	Ni	K	Rb	Se	Ag	Na	Sr	Te	Tl	V	Zn	250 ml					
		121.4	62.41	2034	14.14	11.97	1.062	20740	323.1	1.09	7.445	37.86	78.5	Wasser, Spuren; Trace Elements in Water					
RM		Al	Sb	As	Ba	Be	Bi	Cd	Ca	Cr	Co	Cu	Fe	Pb	Li	Mg	Mn	Mo	
AR APS1075	ug/l	120	10	80	50	20	10	10	35000	20	25	20	100	40	20	9000	40	100	
		Ni	K	Rb	Se	Ag	Na	Sr	Te	Tl	V	U	Zn	250 ml					
		60	2500	10	10	2	6000	250	3	10	30	10	70	Metal. Spuren in Trinkwasser; TM in Drink.Water					
RM		As	Ba	Cd	Cr	Pb	Hg	Se	Ag	Cu	Fe	Mn	Zn	250 ml, in 2% HNO ₃					
AR APS1071	mg/l	100	50	50	100	100	20	50	10	-	-	-	-	Metalle in Trinkwasser					
AR APS1072	mg/l	-	-	-	-	-	-	-	-	50	100	50	50	Metals in Drinking Water					
CRM		Pb	Cd	Hg	F	As	2x20 ml												
GB 08601	mg/kg	1.00	-	-	-	-	Metalle in Wasser												
GB 08602	mg/kg	-	0.100	-	-	-	Metals in Water												
GB 08603	mg/kg	-	-	0.0100	-	-													
GB 08604	mg/kg	-	-	-	1.00	-													
GB 08605	mg/kg	-	-	-	-	0.500													
CRM		Ag	As	Cd	Co	Cr	Cu	Fe	Ni	Pb	Zn	2x20 ml							
GB 08610	mg/l	1000	-	-	-	-	-	-	-	-	-	Metalle in Wasser							
GB 08611	mg/l	-	1000	-	-	-	-	-	-	-	-	Metals in Water							
GB 08612	mg/l	-	-	1000	-	-	-	-	-	-	-								
GB 08613	mg/l	-	-	-	1000	-	-	-	-	-	-								
GB 08614	mg/l	-	-	-	-	1000	-	-	-	-	-								
GB 08615	mg/l	-	-	-	-	-	1000	-	-	-	-								
GB 08616	mg/l	-	-	-	-	-	-	1000	-	-	-								
GB 08618	mg/l	-	-	-	-	-	-	-	1000	-	-								
GB 08619	mg/l	-	-	-	-	-	-	-	-	1000	-								
GB 08620	mg/l	-	-	-	-	-	-	-	-	-	1000								
CRM		Cd	Pb	Cu	Cr	Zn	Ni	20 ml + 100 ml											
GB 08608	mg/kg	0.0100	0.050	0.030	0.050	0.090	0.060	Metalle in Wasser; Metal Elements in Water											

CRM		Ca	Cl	H ₃ O	K	Hg	Na	NH ₄	NO ₃	SO ₄	100 ml							
H 408	umol/kg	7.68	67.3	16.6	(2.3)	6.14	42.0	(21)	20.1	10.5	Simul. Regenwasser							
H 409	umol/kg	15.5	113	48	4.25	12.3	82.9	106	78.1	53.2	Simul. Rainwater							
RM		F	Cl	NO ₃	SO ₄	Na	K	NH ₃	Ca	Mg	250 ml							
AR APS1073/I	mg/l	0.05	0.20	0.50	2.00	0.20	0.05	0.50	0.01	0.02	Simul. Regenwasser							
AR APS1076/II	mg/l	0.10	1.00	7.00	11.00	0.40	0.10	1.00	0.05	0.05	Simul. Rainwater							
CRM		Hg	10x10 ml															
3 1641d	mg/kg	1.590	Quecksilber in Wasser; Mercury in Water															
CRM		Cl	NO ₃	SO ₄	100 ml													
GB 08606	mg/kg	22.0	4.50	38.0	Anione in Wasser; Anions in Water													
CRM		NO ₃	200 ml															
H 479	umol/kg	214	Frischwasser, Nitrat, niedr. Gehalt; Fresh Water, Nitrate, low content															
H 480	umol/kg	885	Frischwasser, Nitrat, hoher Gehalt; Fresh Water, Nitrate, high content															
CRM		Al	As	Cd	Cu	Pb	500 ml											
H 609	ug/kg	47.7	1.2	0.164	2.48	1.63	Grundwasser, niedriger Gehalt; Ground Water, low Level											
H 610	ug/kg	159	10.8	2.94	45.7	7.78	Grundwasser, hoher Gehalt; Ground Water, high Level											
CRM		Br	4x25 ml															
H 611	ug/kg	93	Br in Grundwasser															
H 612	ug/kg	252	Br in Ground Water															
RM		Al	As	B	Ba	Ca	Cd	Co	Cr	Cs	Cu	Fe	K	Mg	Mn	Mo	Na	Ni
SS SPSSW1	ng/ml	50	10.0	50	50	2000	0.50	2.00	2.00	20	20	200	400	10.0	10.0	10.0	2000	10.0
SS SPSSW2	ng/ml	250	50	250	250	10000	2.50	10.0	10.0	10.0	100	100	1000	2000	50.0	50.0	10000	50.0
CRM		P	Pb	Rb	S	Se	Si	Sr	V	Zn	6x50 ml							
		-	5.0	-	-	-	-	50.0	10.0	20.0	Oberflächenwasser							
		500	25.0	50.0	10000	10.0	5000	250	50.0	100	Surface Water							
RM		Al	As	Cd	Co	Cr	Cu	Fe	Mn	Ni	P	Pb	V	Zn	6x50 ml			
SS SPSWW1	ng/ml	2000	100.0	20.0	60.0	200	400	1000	400	1000	1000	100.0	100.0	600	Abwasser			
SS SPSWW2	ng/ml	10000	500	100.0	300	1000	2000	5000	2000	5000	5000	500	500	3000	Waste Water			

CRM		Al	As	Ba	Be	Ca	Cd	Co	Cr	Cu	Fe	K	Mg	Mn	Mo	Na	Ni	
NC SLRS4	ug/l	54	0.68	12.2	0.007	6200	0.012	0.033	0.33	1.81	103	680	1600	3.37	0.21	2400	0.67	
		Pb	Sb	Sr	U	V	Zn	500 ml										
		0.086	0.23	26.3	0.050	0.32	0.93	Flußwasser; River Water										
CRM		K	Na	Mg	Ca	Pb	Cr	Cd	Se	As	Cu	Fe	Mn	Zn	B	Al	Ni	500 g
JS JAC0031	ug/l	0.68ppm	4.2ppm	2.83ppm	12.5ppm	0.026	0.14	(0.003)	(0.1)	0.28	0.88	6.9	0.46	0.79	9.1	13.4	-	
JS JAC0032	ug/l	0.67ppm	4.5ppm	2.86ppm	12.5ppm	9.9	10.1	1.00	5.2	5.5	10.5	57	5.4	11.3	59	61	10.2	
JS JAC0031	Natürliches Flußwasser; Natural River Water																	
JS JAC0032	Formuliertes Flußwasser; Blended River Water																	
CRM		Cd	Cu	Ni	Zn	1 l												
H 505	nmol/kg	0.80	29.4	24.1	172	Spuren in Mündungswasser; Trace Elements in Estuarine Water												
CRM		As	Cd	Co	Cr	Cu	Fe	Mn	Ni	Pb	V	Zn	500 ml					
NC SLEW3	ug/l	1.36	0.048	0.042	0.183	1.55	0.568	1.61	1.23	0.0090	2.57	0.201	Mündungswasser; Estuarine Water					
CRM		Al	As	Cd	Cu	Mo	Ni	Pb	V	Zn	2 l							
H 403	nmol/kg	(17.1)	(19.5)	0.175	3.90	103	4.36	0.117	(22.3)	25.7	Seewasser, Spuren; Trace Elements in Sea Water							
CRM		As	Cd	Co	Cr	Cu	Fe	Mn	Mo	Ni	Pb	V	Zn	500 ml				
NC CASS4	ug/ml	0.00111	0.026	0.026	0.144	0.592	0.713	2.78	8.78	0.314	0.0098	1.18	0.381	Seewasser, Küste; Coastal Seawater				
CRM		As	Cd	Co	Cr	Cu	Fe	Mn	Mo	Ni	Zn	500 ml						
NC NASS5	ug/l	1.27	0.023	0.011	0.110	0.297	0.207	0.919	9.6	0.253	0.102	Seewasser; Sea Water						
CRM		Orthophosphat (e)		Silicate	Nitrit (e)	Nitrit (e)+Nitrat (e) 2x50 ml												
NC MOOS1	umol/l	1.56		26.0	3.06	23.7 Nährstoffe in Seewasser; Nutrients in Seawater												

	ug/l	NW AES02	NW ION915	NW PERADE20	NW RAIN97	NW TROIS94	500 ml
Alkalinity, total (as CaCO ₃)	-	42.3	-	-	-	(6.2)	AES02 - Saures Regenwasser; Acid Rainwater
Aluminium	0.013	-	0.091	0.031	(0.067)		
Ammonia (as N)	0.16	(0.004)	(0.004)	0.18	0.030		ION915 - Süßwasser/Soft Water, Lake Superior
Calcium	0.164	13.4	3.04	2.64	2.52		
Chloride	0.12	1.39	0.96	0.526	1.74		PERADE20 - Flußwasser/River Water
Colour (Hazen)	(0.8)	(1.5)	24	(2.4)	36.		
Dissolved Inorganic Carbon (DIC)	-	9.95	1.7	(0.3)	1.2		RAIN97 - Regenwasser; Rain Water
Dissolved Inorganic Carbon (DOC)	(0.4)	(1.3)	4.0	0.75	(5.3)		
Fluoride	-	0.048	(0.04)	-	(0.043)		Trois94 - Trois Rivieres, Quebec
Hardness, Total (as CaCO ₃)	-	45.2	(9.3)	-	(9.3)		
Magnesium	0.030	2.8	0.44	0.934	0.607		
Nitrate (IC as N)	0.235	-	(0.23)	2.09	0.070		
Nitrate + Nitrite (as N)	0.237	0.343	0.228	2.08	0.070		
pH	4.53	7.72	6.81	4.50	6.8		
Potassium	0.030	0.49	0.36	0.153	0.51		
Silica	0.018	1.16	2.10	0.111	1.98		
Sodium	0.067	1.35	1.5	0.276	2.21		
Specific Conductance (uS/cm)	16.5	97	28.2	43.8	31.9		
Sulfate (as SO ₄)	1.8	3.4	3.26	5.28	4.76		
Total Khjeldahl Nitrogen (ThN)	(0.18)	(0.096)	(0.15)	(0.26)	0.24		

	ug/l	NW BURTAP90	NW HAMILTON20	NW HURON98	NW ION92	NW ION96.3	NW ONTARIO99	500 ml
Alkalinity, total (as CaCO ₃)	46	103	79.5	1.5	184	92.7		BURTAP - Trinkwasser; Drink.Water
Ammonia (as N)	0.045	(0.004)	(0.018)	(<0.002)	(0.02)	(0.004)		
Boron	(0.016)	(0.060)	(0.013)	-	(0.06)	(0.025)		HAMILTON20 - Hafen/Harbour
Calcium	18.9	45.1	26.1	42.8	90.6	35		
Chloride	11.5	64.6	6.18	105.5	93	20.7		HURON98 - Lake Huron
Colour (Hazen)	(1.4)	(5.0)	(1.0)	1.5	16	(2.3)		
Dissolved Inorganic Carbon (DIC)	10.9	24.9	19.0	<0.5	42.7	22.2		ION92 - Dest. Wasser; Dest. Water
Dissolved Inorganic Carbon (DOC)	0.92	2.9	1.50	<0.5	4.9	1.7		
Fluoride	0.56	0.42	0.085	(<0.05)	0.16	0.63		ION96.3 - Grand River
Hardness, Total (as CaCO ₃)	65	163	96.4	147.9	336	124		
Magnesium	4.1	11.8	7.36	9.59	25.7	8.6		ONTARIO99 - Lake Ontario
Nitrate + Nitrite (as N)	0.16	2.45	0.248	(0.018)	4.3	0.45		
pH	7.8	8.00	8.06	5.53	8.3	8.08		
Potassium	0.75	4.2	0.92	0.884	4.0	1.5		
Silica (as Si)	0.16	0.095	0.501	(<0.03)	1.16	0.53		
Sodium	5.8	38	3.73	19.3	48.6	12.7		
Specific Conductance	164	521	206	446	860	306		
Sulfate (as SO ₄)	13.9	46	15.4	37.0	110	26.0		
Total Khjeldahl Nitrogen (ThN)	(0.13)	(0.35)	(0.13)	(<0.05)	(0.52)	(0.13)		

RM		P(tot)	Satz von 5 Fl. /125 ml; set of 5 btls./125 ml 5 Proben gleicher oder 5 Proben verschiedener Konzentration nach Wahl 5 samples of same or different concentration as per request
NW TP85-1	mg/l	0.0020	Konzentrationen wechseln mit neuer Charge
NW TP85-2	mg/l	0.0082	Concentrations change with new lots
NW TP85-3	mg/l	0.0163	
NW TP85-4	mg/l	0.0275	
NW TO85-5	mg/l	0.0445	
NW TP85-6	mg/l	0.0700	
NW TP85-7	mg/l	0.0890	
NW TP85-8	mg/l	0.2440	
NW TP85-9	mg/l	0.346	
NW TP85-10	mg/l	0.378	

RM		Hg(tot)	Satz von 5 oder 10 Fl./125 ml; set of 5 or 10 btls./125 ml Auswahl von 1 Probe oder verschiedenen Konzentrationen A selection of 1 sample or several concentrations
NW HG85-1	ug/l	0.0082	Konzentrationen wechseln mit neuer Charge
NW HG85-2	ug/l	0.0295	Concentrations change with new lots
NW HG85-3	ug/l	0.041	
NW HG85-4	ug/l	0.060	
NW HG85-5	ug/l	0.108	
NW HG85-6	ug/l	0.130	
NW HG85-7	ug/l	0.206	
NW HG85-8	ug/l	0.250	
NW HG85-9	ug/l	0.350	
NW HG85 10	ug/l	0.400	

CRM		COD	20 ml
CI ZC80301c	mg/l	1883	CSB (Chemischer Sauerstoff Bedarf)
CI ZC80302c	mg/l	2350	COD (Chemical Oxygen Demand)
CI ZC80303c	mg/l	4940	