Chemical and physical characteristics of standard soils according to GLP

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Ordered soils, Batch-no. and sampling date						
Standard soil type no.	**2.1**	**2.2**	**2.3**	**2.4N**	**5M**	**6S**
Batch No. (Sp=stored; F= field fresh)						
Sampling date						

Analyses data sheet for standard soils according to GLP

(Mean values ± standard deviations of last five analyses according to GLP. All values refer to air dried soil (dry matter for maximum water holding capacity)

Standard soil type no.		**2.1**	**2.2**	**2.3**	**2.4N**	**5M**	**6S**
Parameter	Method						
Organic carbon [% C]	VDLUFA MB 1,A 4.1.3.1:2016-7; DIN EN 15936	0.90 ± 0.21	2.13 ± 0.14	0.79 ± 0.12	2.40 ± 0.28	1.09 ± 0.10	1.85 ± 0.10
Microbial C / total organic carbon in %	DIN EN ISO 14240-1: 2011-09 (for microbial C)	4.1 ± 0.5	3.1 ± 0.5	4.0 ± 0.6	4.3 ± 1.0	5.4 ± 0.7	4.3 ± 1.1
Nitrogen [% N]	DIN EN 16168: 2012-11	0.08 ± 0.02	0.20 ± 0.01	0.07 ± 0.01	0.26 ± 0.02	0.12 ± 0.01	0.17 ± 0.01
pH value (0.01 M $CaCl_2$)	VDLUFA MB 1, A5.1.1:2016-7	4.89 ± 0.21	5.53 ± 0.19	5.95 ± 0.26	7.45 ± 0.08	7.52 ± 0.13	7.32 ± 0.04
Mean pH-value (derivated from proton activity)		*4.85*	*5.49*	*5.90*	*7.44*	*7.50*	*7.32*
Cation exchange capacity POT (meq/100g)	DIN 19684:1973-1	3.9 ± 0.6	10.2 ± 1.2	5.6 ± 0.6	20.7 ± 3.0	10.1 ± 1.3	17.7 ± 0.7
Particle size distribution (mm) according to German DIN (%)							
<0.002	DIN ISO 11277: 2002-08 (mod.)	2.8 ± 0.8	11.8 ± 0.8	4.9 ± 1.3	33.0 ± 4.7	12.6 ± 1.4	40.5 ± 1.8
0.002 - 0.006		1.8 ± 0.4	3.5 ± 0.8	3.6 ± 0.7	10.3 ± 2.2	5.6 ± 1.9	10.3 ± 0.9
0.006 - 0.02		2.7 ± 0.9	5.9 ± 0.1	10.2 ± 0.7	10.9 ± 1.5	10.4 ± 1.1	12.7 ± 2.0
0.02 - 0.063		7.6 ± 1.7	10.0 ± 1.8	22.7 ± 1.8	16.2 ± 2.4	22.9 ± 3.3	15.6 ± 1.6
0.063 - 0.2		28.9 ± 1.9	29.3 ± 0.6	30.4 ± 1.3	18.5 ± 4.6	37.1 ± 1.3	9.2 ± 0.4
0.2 - 0.63		54.1 ± 3.2	38.6 ± 1.6	26.9 ± 2.7	10.4 ± 3.2	10.4 ± 1.0	9.5 ± 1.1
0.63 - 2.0		2.1 ± 0.5	0.9 ± 0.2	1.5 ± 0.3	0.8 ± 0.2	1.0 ± 0.2	2.2 ± 0.3
Soil type group DIN	German soil mapping guideline KA5	loam sand (ls)	loam sand (ls)	silt sand (us)	normal loam (ll)	sand loam (sl)	silt clay (ut)
Particle size distribution (mm) according to USDA (%)							
<0.002	DIN ISO 11277: 2002-08 (mod.)	3.2 ± 1.0	11.9 ± 0.6	4.9± 1.2	33.1 ± 4.9	12.8 ± 1.4	40.7 ± 1.5
0.002 - 0.05		10.8 ± 2.1	18.1 ± 1.5	33.9 ± 1.1	34.3 ± 1.8	33.6 ± 2.7	36.7 ± 2.0
0.05 - 2.0		86.0 ± 2.0	70.0 ± 1.4	61.1 ± 2.0	32.6 ± 5.5	53.7 ± 1.8	22.6 ± 1.4
Soil type USDA	Soil survey staff 1999, Soil taxonomy, 2nd edition	loamy sand	sandy loam	sandy loam	clay loam	sandy loam	clay
Maximum water holding capacity DIN (g/100g)	DIN EN ISO 14240-2:2011-09	36.2 ± 2.2	61.6 ± 4.7	34.9 ± 1.9	64.9 ± 4.4	42.0 ± 1.4	49.7 ± 3.3
pF 2.0	DIN EN ISO 11274:2020-04	10.4 ± 1.0	24.8 ± 2.9	17.7 ± 1.4	38.4 ± 3.6	24.2 ± 2.3	35.1 ± 3.3
pF 2.5		6.7 ± 0.6	19.1 ± 1.7	11.3 ± 0.3	32.0 ± 3.0	17.5 ± 1.6	29.3 ± 2.1
Weight per volume (g/1000ml)	VDLUFA MB 1, A13.2.1:1991	1383 ± 61	1105 ± 47	1314 ± 37	1148 ± 40	1203 ± 56	1245 ± 36

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