/AWEL 9.7.2/ Przekroczenia norm

wymywania (eluatów) żużla spalarniowego dla składowisk **innych niż niebezpieczne i komunalne oraz obojętnych**

Wartość maksymalna

Odchylenie standardowe próbki w stosunku do normy

Odchylenie wartości maksymalnej w stosunku do normy

średnia

Norma wymywania dla składowisk odpadów obojętnych

Tabelle 9-8: Eluatwerte, KVA 1, Ofen A (KHKW Hagenholz, Ofe…

	Einheit	MW	o.G. (95% KI)	Max	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Inertstoff	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Reststoff
Leitfähigkeit	µS/cm	3934	4589	5965						
pH-Wert	pH	11.99	12.11	12.24	1%	2%	6–12	1%	2%	6–12
Trockenrückstand	mg/l									
Chlorid	mg/l	92	103	117						
Nitrat	mg/l	0.19	0.39	0.78						
Sulfat	mg/l	230	339	693						
Fluorid	mg/l	0.44	0.51	0.63	-49%	-37%	1	-95%	-94%	10
Ammonium	mg N/l	0.09	0.12	0.23	-76%	-54%	0.5	-98%	-95%	5
Nitrit	mg/l	0.11	0.13	0.18	33%	80%	0.1	-87%	-82%	1
Phosphat (ortho)	mg P/l	0.011	0.017	0.030	-98%	-97%	1	-100%	-100%	10
Cyanid leicht freisetz.	mg CN/l						0.01			0.1
Sulfid	mg/l						0.01			0.1
Sulfit	mg/l	0.36	0.55	1.31	452%	1210%	0.1	-45%	31%	1
Aluminium	mg/l	0.14	0.19	0.39	-81%	-61%	1	-98%	-96%	10
Arsen	mg/l	0.004	0.005	0.008	-48%	-20%	0.01	-95%	-92%	0.1
Barium	mg/l	0.25	0.28	0.37	-43%	-26%	0.5	-94%	-93%	5
Blei	mg/l	0.023	0.037	0.095	-63%	-5%	0.1	-96%	-91%	1
Cadmium	mg/l	0.004	0.006	0.014	-40%	40%	0.01	-94%	-86%	0.1
Chrom	mg/l	0.014	0.023	0.073	-53%	46%	0.05	-99%	-96%	2
Chrom-VI	mg/l				-100%	-100%	0.01	-100%	-100%	0.1
Kobalt	mg/l	0.020	0.022	0.025	-57%	-50%	0.05	-96%	-95%	0.5
Kupfer	mg/l	0.41	0.52	0.82	160%	310%	0.2	4%	64%	0.5
Nickel	mg/l	0.067	0.078	0.110	-61%	-45%	0.2	-96%	-95%	2
Quecksilber	mg/l	0.002	0.003	0.007	-37%	40%	0.005	-68%	-30%	0.01
Zink	mg/l	6.0	6.7	7.5	571%	650%	1	-33%	-25%	10
Zinn	mg/l	0.002	0.003	0.005	-98%	-98%	0.2	-100%	-100%	2
DOC	mg C/l	5.7	9.1	24.9	-54%	25%	20	-82%	-50%	50
BSB5	mg O2/l									10
KW-Index	mg/l						0.5			5
Anteil KW < C10	%									
Anteil KW > C40	%									
Phenole	mg/l									
AOX	µg/l	9.0	13.8	25.0						
EOX	µg/l	0.40	0.78	1.80						
Methylenchlorid	µg/l									
Chloroform	µg/l									
Trichlorethan-1,1,1	µg/l									
Tetrachlorkohlenstoff	µg/l									
Trichlorethylen	µg/l									
Perchlorethylen	µg/l									
cis-1,2-Dichlorethylen	µg/l									
Summe CLM	µg/l						0.01			0.1
Antimon	mg/l	0.22	0.34	0.94						
Eisen	mg/l	0.76	0.81	5.60						
Bromid	mg/l	0.37	0.62	0.75						
wasserlösl. Anteil	g/kg TS	15	18	22						

Przewodnictwo
Odczyn pH
Resztka sucha
Chlorki
Azotany
Siarczany
Fluorki
Az. Amonu
Azotyny
Ortofosfat
Cyjanidy
Siarczki
Siarczki
Aluminium
Arsen
Bar
Kadm
Chrom
Chrom VI
Kobalt
Miedź
Nikiel
Rtęć
Cynk
Cyna
DOC
BZT5

Odchylenie standardowe próbki w stosunku do normy

Odchylenie standardowe próbki w stosunku do normy

Norma wymywania dla składowisk odpadów komunalnych

Tabelle 9-9: Eluatwerte, KVA 1, Ofen C (KHKW Hagenholz, Ofen 3)

	Einheit	MW	o.G. (95% KI)	Max	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Inertstoff	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Reststoff
Leitfähigkeit	µS/cm	4289	5029	6320						
pH-Wert	pH	12.09	12.23	12.39	2%	3%	6–12	2%	3%	6–12
Trockenrückstand	mg/l									
Chlorid	mg/l	107	124	163						
Nitrat	mg/l	0.20	0.37	0.67						
Sulfat	mg/l	219	309	603						
Fluorid	mg/l	0.53	0.60	0.77	-40%	-23%	1	-94%	-92%	10
Ammonium	mg N/l	0.20	0.25	0.33	-51%	-34%	0.5	-95%	-93%	5
Nitrit	mg/l	0.15	0.18	0.23	82%	130%	0.1	-82%	-77%	1
Phosphat (ortho)	mg P/l	0.010	0.015	0.020	-98%	-98%	1	-100%	-100%	10
Cyanid leicht freisetz.	mg CN/l						0.01			0.1
Sulfid	mg/l						0.01			0.1
Sulfit	mg/l	0.16	0.25	0.50	151%	400%	0.1	-75%	-50%	1
Aluminium	mg/l	0.26	0.38	0.83	-62%	-17%	1	-96%	-92%	10
Arsen	mg/l	0.006	0.007	0.016	-26%	60%	0.01	-93%	-84%	0.1
Barium	mg/l	0.30	0.35	0.48	-30%	-4%	0.5	-93%	-90%	5
Blei	mg/l	0.024	0.032	0.047	-68%	-53%	0.1	-97%	-95%	1
Cadmium	mg/l	0.007	0.009	0.016	-6%	60%	0.01	-91%	-84%	0.1
Chrom	mg/l	0.03	0.03	0.06	-33%	10%	0.05	-98%	-97%	2
Chrom-VI	mg/l						0.01			0.1
Kobalt	mg/l	0.022	0.028	0.040	-45%	-20%	0.05	-94%	-92%	0.5
Kupfer	mg/l	0.43	0.53	0.79	164%	295%	0.2	6%	58%	0.5
Nickel	mg/l	0.08	0.09	0.12	-55%	-40%	0.2	-95%	-94%	2
Quecksilber	mg/l	0.001	0.001	0.003	-77%	-40%	0.005	-89%	-70%	0.01
Zink	mg/l	4.61	5.42	8.10	442%	710%	1	-46%	-19%	10
Zinn	mg/l	0.003	0.007	0.025	-97%	-88%	0.2	-100%	-99%	2
DOC	mg C/l	24	32	50	58%	150%	20	-37%	0%	50
BSB5	mg O2/l									10
KW-Index	mg/l						0.5			5
Anteil KW < C10	%									
Anteil KW > C40	%									
Phenole	mg/l									
AOX	µg/l	18	29	56						
EOX	µg/l	0.45	0.94	2.40						
Methylenchlorid	µg/l									
Chloroform	µg/l									
Trichlorethan-1,1,1	µg/l									
Tetrachlorkohlenstoff	µg/l									
Trichlorethylen	µg/l									
Perchlorethylen	µg/l									
cis-1,2-Dichlorethylen	µg/l									
Summe CLM	µg/l						0.01			0.1
Antimon	mg/l	0.30	0.47	1.30						
Eisen	mg/l	0.48	0.70	1.50						
Bromid	mg/l	0.39	0.73	0.80						
wasserlösl. Anteil	g/kg TS	17	19	26						

Tabelle 9-10: Eluatwerte, KVA 2, Ofen B (KHKW Josefstrasse, Ofen 2)

	Einheit	MW	o.G. (95% KI)	Max	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Inertstoff	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Reststoff
Leitfähigkeit	µS/cm	3904	5087	7070						
pH-Wert	pH	12.00	12.21	12.49	2%	4%	6–12	2%	4%	6–12
Trockenrückstand	mg/l									
Chlorid	mg/l	152	193	228						
Nitrat	mg/l	0.55	1.32	3.70						
Sulfat	mg/l	82	129	262						
Fluorid	mg/l	0.52	0.67	1.10	-33%	10%	1	-93%	-89%	10
Ammonium	mg N/l	0.28	0.35	0.46	-31%	-8%	0.5	-93%	-91%	5
Nitrit	mg/l	0.18	0.22	0.34	122%	240%	0.1	-78%	-66%	1
Phosphat (ortho)	mg P/l	0.008	0.013	0.020	-99%	-98%	1	-100%	-100%	10
Cyanid leicht freisetz.	mg CN/l						0.01			0.1
Sulfid	mg/l						0.01			0.1
Sulfit	mg/l	0.090	0.162	0.410	62%	310%	0.1	-84%	-59%	1
Aluminium	mg/l	0.32	0.41	0.53	-59%	-47%	1	-96%	-95%	10
Arsen	mg/l	0.006	0.011	0.030	12%	200%	0.01	-89%	-70%	0.1
Barium	mg/l	0.36	0.41	0.48	-17%	-4%	0.5	-92%	-90%	5
Blei	mg/l	0.021	0.030	0.056	-70%	-45%	0.1	-97%	-95%	1
Cadmium	mg/l	0.004	0.005	0.007	-51%	-30%	0.01	-95%	-93%	0.1
Chrom	mg/l	0.026	0.033	0.041	-35%	-18%	0.05	-98%	-98%	2
Chrom-VI	mg/l						0.01			0.1
Kobalt	mg/l	0.021	0.025	0.030	-50%	-40%	0.05	-95%	-94%	0.5
Kupfer	mg/l	0.45	0.68	1.50	239%	650%	0.2	36%	200%	0.5
Nickel	mg/l	0.069	0.088	0.130	-56%	-35%	0.2	-96%	-94%	2
Quecksilber	mg/l	0.001	0.002	0.005	-58%	-2%	0.005	-79%	-51%	0.01
Zink	mg/l	3.83	4.81	8.10	381%	710%	1	-52%	-19%	10
Zinn	mg/l	0.001	0.003	0.005	-99%	-98%	0.2	-100%	-100%	2
DOC	mg C/l	48	67	102	233%	410%	20	33%	104%	50
BSB5	mg O2/l									10
KW-Index	mg/l						0.5			5
Anteil KW < C10	%									
Anteil KW > C40	%									
Phenole	mg/l									
AOX	µg/l	23	36	57						
EOX	µg/l	0.38	0.69	1.30						
Methylenchlorid	µg/l									
Chloroform	µg/l									
Trichlorethan-1,1,1	µg/l									
Tetrachlorkohlenstoff	µg/l									
Trichlorethylen	µg/l									
Perchlorethylen	µg/l									
cis-1,2-Dichlorethylen	µg/l									
Summe CLM	µg/l						0.01			0.1
Antimon	mg/l	0.32	0.66	1.60						
Eisen	mg/l	0.64	1.12	2.40						
Bromid	mg/l	0.35	0.76	0.71						
wasserlösl. Anteil	g/kg TS	16	20	29						

Tabelle 9-13: Eluatwerte, KVA 2, Ofen D (KHKW Josefstrasse, Ofen 1neu)

	Einheit	MW	o.G. (95% KI)	Max	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Inertstoff	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Reststoff
Leitfähigkeit	µS/cm	4518	8468	5980						
pH-Wert	pH	11.99	12.57	12.19	5%	2%	6–12	5%	2%	6–12
Trockenrückstand	mg/l									
Chlorid	mg/l	139	246	162						
Nitrat	mg/l	0.35	0.61	0.40						
Sulfat	mg/l	89	318	166						
Fluorid	mg/l	0.50	0.69	0.57	-31%	-43%	1	-93%	-94%	10
Ammonium	mg N/l	0.21	0.60	0.35	20%	-30%	0.5	-88%	-93%	5
Nitrit	mg/l	0.15	0.31	0.21	209%	110%	0.1	-69%	-79%	1
Phosphat (ortho)	mg P/l	0.01	0.03	0.02	-97%	-98%	1	-100%	-100%	10
Cyanid leicht freisetz.	mg CN/l						0.01			0.1
Sulfid	mg/l						0.01			0.1
Sulfit	mg/l	0.21	0.77	0.41	668%	310%	0.1	-23%	-59%	1
Aluminium	mg/l	0.18	0.33	0.29	-67%	-71%	1	-97%	-97%	10
Arsen	mg/l	0.004	0.009	0.007	-8%	-30%	0.01	-91%	-93%	0.1
Barium	mg/l	0.29	0.43	0.40	-15%	-20%	0.5	-91%	-92%	5
Blei	mg/l	0.017	0.032	0.025	-68%	-75%	0.1	-97%	-98%	1
Cadmium	mg/l	0.002	0.005	0.004	-49%	-60%	0.01	-95%	-96%	0.1
Chrom	mg/l	0.021	0.031	0.028	-39%	-44%	0.05	-98%	-99%	2
Chrom-VI	mg/l						0.01			0.1
Kobalt	mg/l	0.020	0.025	0.022	-50%	-56%	0.05	-95%	-96%	0.5
Kupfer	mg/l	0.61	0.80	0.74	301%	270%	0.2	61%	48%	0.5
Nickel	mg/l	0.063	0.074	0.070	-63%	-65%	0.2	-96%	-97%	2
Quecksilber	mg/l	0.002	0.005	0.004	-2%	-16%	0.005	-51%	-58%	0.01
Zink	mg/l	4.4	7.2	6.6	616%	560%	1	-28%	-34%	10
Zinn	mg/l	0.004	0.008	0.005	-96%	-98%	0.2	-100%	-100%	2
DOC	mg C/l	25	93	48	363%	140%	20	85%	-4%	50
BSB5	mg O2/l									10
KW-Index	mg/l						0.5			5
Anteil KW < C10	%									
Anteil KW > C40	%									
Phenole	mg/l									
AOX	µg/l	41	136	68						
EOX	µg/l	0.50	0.50	0.50						
Methylenchlorid	µg/l									
Chloroform	µg/l									
Trichlorethan-1,1,1	µg/l									
Tetrachlorkohlenstoff	µg/l									
Trichlorethylen	µg/l									
Perchlorethylen	µg/l									
cis-1,2-Dichlorethylen	µg/l									
Summe CLM	µg/l						0.01			0.1
Antimon	mg/l	0.18	0.23	0.21						
Eisen	mg/l	0.49	0.90	0.65						
Bromid	mg/l	0.23	0.77	0.40						
wasserlösl. Anteil	g/kg TS	14	28	19						

Tabelle 9-14: Eluatwerte, KVA 3 (KVA Thurgau), Ofen 3

	Einheit	MW	o.G. (95% KI)	Max	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Inertstoff	Abw. o.G. zu GW	Abw. Max zu GW	GW TVA Reststoff
Leitfähigkeit	µS/cm	3246	3827	4288						
pH-Wert	pH	12.04	12.13	12.23	1%	2%	6–12	1%	2%	6–12
Trockenrückstand	mg/l	1383	1826	2745						
Chlorid	mg/l	146	161	169						
Nitrat	mg/l	0.55	0.93	1.50						
Sulfat	mg/l	111	241	626						
Fluorid	mg/l	0.99	1.31	1.83	31%	83%	1	-87%	-82%	10
Ammonium	mg N/l	0.43	0.50	0.60	1%	20%	0.5	-90%	-88%	5
Nitrit	mg/l	0.078	0.096	0.131	-4%	31%	0.1	-90%	-87%	1
Phosphat (ortho)	mg P/l	0.006	0.008	0.014	-99%	-99%	1	-100%	-100%	10
Cyanid leicht freisetz.	mg CN/l	0.005	0.005	0.005	-50%	-50%	0.01	-95%	-95%	0.1
Sulfid	mg/l	0.016	0.041	0.125	314%	1150%	0.01	-59%	25%	0.1
Sulfit	mg/l	0.58	0.77	1.23	667%	1125%	0.1	-23%	23%	1
Aluminium	mg/l	0.12	0.16	0.24	-84%	-77%	1	-98%	-98%	10
Arsen	mg/l	0.003	0.003	0.003	-75%	-75%	0.01	-97%	-98%	0.1
Barium	mg/l	0.27	0.30	0.38	-40%	-25%	0.5	-94%	-93%	5
Blei	mg/l	0.016	0.021	0.029	-79%	-71%	0.1	-98%	-97%	1
Cadmium	mg/l	0.005	0.011	0.028	8%	180%	0.01	-88%	-72%	0.1
Chrom	mg/l	0.004	0.008	0.019	-85%	-63%	0.05	-100%	-99%	2
Chrom-VI	mg/l	0.011	0.014	0.019	42%	88%	0.01	-88%	-81%	0.1
Kobalt	mg/l	0.024	0.030	0.039	-41%	-23%	0.05	-94%	-92%	0.5
Kupfer	mg/l	0.43	0.55	0.68	173%	240%	0.2	9%	36%	0.5
Nickel	mg/l	0.091	0.114	0.157	-43%	-21%	0.2	-94%	-92%	2
Quecksilber	mg/l	0.002	0.004	0.010	-19%	101%	0.005	-60%	1%	0.01
Zink	mg/l	5.1	6.1	8.0	511%	699%	1	-39%	-20%	10
Zinn	mg/l	0.001	0.001	0.001	-100%	-100%	0.2	-100%	-100%	2
DOC	mg C/l	5.6	6.4	7.2	-68%	-64%	20	-87%	-86%	50
BSB5	mg O2/l	6.7	8.1	8.0				-19%	-20%	10
KW-Index	mg/l	0.056	0.074	0.088	-85%	-83%	0.5	-99%	-98%	5
Anteil KW < C10	%	*								
Anteil KW > C40	%	*								
Phenole	mg/l	0.034	0.053	0.050						
AOX	µg/l	9.5	11.5	15.0						
EOX	µg/l	0.52	0.58	0.63						
Methylenchlorid	µg/l	*								
Chloroform	µg/l	*								
Trichlorethan-1,1,1	µg/l	*								
Tetrachlorkohlenstoff	µg/l	*								
Trichlorethylen	µg/l	*								
Perchlorethylen	µg/l	*								
cis-1,2-Dichlorethylen	µg/l	*								
Summe CLM	µg/l	*					0.01			0.1