

7. LAMPIRAN

LAMPIRAN 1. Rumus Perhitungan dan Hasil Pengukuran AAS

Rumus : Kandungan logam ($\mu\text{g}/\text{gr}$) = $\frac{(\mu\text{g logam} / \text{ml dari kurva kalibrasi}) \times 10}{0.3}$

0.3

Ulangan	Depurasi (jam)	EDTA (ppm)	Perebusan (menit)	Bagian	AAS	Cd (g/g)
1	24	0	10	edible	0.28	9.43
2	24	0	10	edible	0.23	7.83
3	24	0	10	edible	0.29	9.72
4	24	0	10	edible	0.19	6.21
5	24	0	10	edible	0.22	7.35
6	24	0	10	edible	0.31	10.36
7	24	0	10	edible	0.24	7.93
8	24	0	10	edible	0.25	8.18
9	24	0	10	edible	0.28	9.29
10	24	0	10	edible	0.19	6.49
1	24	0	10	non edible portions	0.28	9.48
2	24	0	10	non edible portions	0.30	9.97
3	24	0	10	non edible portions	0.24	7.9
4	24	0	10	non edible portions	0.25	8.18
5	24	0	10	non edible portions	0.29	9.63
6	24	0	10	non edible portions	0.31	10.28
7	24	0	10	non edible portions	0.32	10.64
8	24	0	10	non edible portions	0.24	7.86
9	24	0	10	non edible portions	0.27	8.89
10	24	0	10	non edible portions	0.29	9.64
1	24	0	20	edible	0.23	7.53
2	24	0	20	edible	0.19	6.34
3	24	0	20	edible	0.21	7.08
4	24	0	20	edible	0.17	5.72
5	24	0	20	edible	0.16	5.21
6	24	0	20	edible	0.23	7.72
7	24	0	20	edible	0.19	6.32
8	24	0	20	edible	0.18	6.08
9	24	0	20	edible	0.23	7.54
10	24	0	20	edible	0.25	8.48

1	24	0	20	non edible portions	0.24	7.96
2	24	0	20	non edible portions	0.25	8.48
3	24	0	20	non edible portions	0.19	6.36
4	24	0	20	non edible portions	0.21	6.98
5	24	0	20	non edible portions	0.24	7.97
6	24	0	20	non edible portions	0.25	8.28
7	24	0	20	non edible portions	0.23	7.56
8	24	0	20	non edible portions	0.18	5.86
9	24	0	20	non edible portions	0.19	6.39
10	24	0	20	non edible portions	0.22	7.32
1	24	17	10	edible	0.30	9.97
2	24	17	10	edible	0.15	4.92
3	24	17	10	edible	0.14	4.6
4	24	17	10	edible	0.24	8
5	24	17	10	edible	0.09	3
6	24	17	10	edible	0.23	7.68
7	24	17	10	edible	0.08	2.72
8	24	17	10	edible	0.13	4.44
9	24	17	10	edible	0.12	3.92
10	24	17	10	edible	0.26	8.68
1	24	17	10	non edible portions	0.12	4.16
2	24	17	10	non edible portions	0.09	2.96
3	24	17	10	non edible portions	0.08	2.56
4	24	17	10	non edible portions	0.09	3.04
5	24	17	10	non edible portions	0.06	1.88
6	24	17	10	non edible portions	0.09	3.08
7	24	17	10	non edible portions	0.08	2.68
8	24	17	10	non edible portions	0.07	2.2
9	24	17	10	non edible portions	0.06	2
10	24	17	10	non edible portions	0.11	3.52
1	24	17	20	edible	0.12	4
2	24	17	20	edible	0.22	7.44
3	24	17	20	edible	0.22	7.44
4	24	17	20	edible	0.19	6.28

5	24	17	20	edible	0.10	3.32
6	24	17	20	edible	0.23	7.72
7	24	17	20	edible	0.10	3.4
8	24	17	20	edible	0.10	3.44
9	24	17	20	edible	0.11	3.8
10	24	17	20	edible	0.29	9.64
1	24	17	20	non edible portions	0.17	5.5
2	24	17	20	non edible portions	0.10	3.28
3	24	17	20	non edible portions	0.08	2.68
4	24	17	20	non edible portions	0.12	3.84
5	24	17	20	non edible portions	0.04	1.24
6	24	17	20	non edible portions	0.08	2.64
7	24	17	20	non edible portions	0.09	2.92
8	24	17	20	non edible portions	0.08	2.68
9	24	17	20	non edible portions	0.05	1.64
10	24	17	20	non edible portions	0.08	2.6
1	24	34	10	edible	0.17	5.5
2	24	34	10	edible	0.15	5
3	24	34	10	edible	0.06	2
4	24	34	10	edible	0.17	5.6
5	24	34	10	edible	0.08	2.72
6	24	34	10	edible	0.24	7.88
7	24	34	10	edible	0.10	3.36
8	24	34	10	edible	0.14	4.76
9	24	34	10	edible	0.10	3.36
10	24	34	10	edible	0.24	7.88
1	24	34	10	non edible portions	0.13	4.4
2	24	34	10	non edible portions	0.12	3.84
3	24	34	10	non edible portions	0.13	4.28
4	24	34	10	non edible portions	0.12	4.16
5	24	34	10	non edible portions	0.06	2.12
6	24	34	10	non edible portions	0.07	2.32
7	24	34	10	non edible portions	0.08	2.52
8	24	34	10	non edible portions	0.06	2.12
9	24	34	10	non edible portions	0.04	1.24

10	24	34	10	<i>non edible</i> <i>portions</i>	0.10	3.44
1	24	34	20	<i>edible</i>	0.23	7.8
2	24	34	20	<i>edible</i>	0.18	6.16
3	24	34	20	<i>edible</i>	0.27	8.96
4	24	34	20	<i>edible</i>	0.17	5.8
5	24	34	20	<i>edible</i>	0.09	2.84
6	24	34	20	<i>edible</i>	0.12	4
7	24	34	20	<i>edible</i>	0.23	7.72
8	24	34	20	<i>edible</i>	0.08	2.76
9	24	34	20	<i>edible</i>	0.10	3.36
10	24	34	20	<i>edible</i>	0.27	9.08
1	24	34	20	<i>non edible</i> <i>portions</i>	0.17	5.8
2	24	34	20	<i>non edible</i> <i>portions</i>	0.07	2.48
3	24	34	20	<i>non edible</i> <i>portions</i>	0.09	3.08
4	24	34	20	<i>non edible</i> <i>portions</i>	0.09	2.84
5	24	34	20	<i>non edible</i> <i>portions</i>	0.07	2.24
6	24	34	20	<i>non edible</i> <i>portions</i>	0.10	3.44
7	24	34	20	<i>non edible</i> <i>portions</i>	0.04	1.48
8	24	34	20	<i>non edible</i> <i>portions</i>	0.09	3.08
9	24	34	20	<i>non edible</i> <i>portions</i>	0.06	2.16
10	24	34	20	<i>portions</i>	0.13	4.32
1	24	68	10	<i>edible</i>	0.24	8.13
2	24	68	10	<i>edible</i>	0.23	7.72
3	24	68	10	<i>edible</i>	0.08	2.72
4	24	68	10	<i>edible</i>	0.18	6.04
5	24	68	10	<i>edible</i>	0.11	3.52
6	24	68	10	<i>edible</i>	0.27	9.08
7	24	68	10	<i>edible</i>	0.13	4.4
8	24	68	10	<i>edible</i>	0.11	3.52
9	24	68	10	<i>edible</i>	0.09	3.12
10	24	68	10	<i>edible</i>	0.25	8.4
1	24	68	10	<i>non edible</i> <i>portions</i>	0.10	3.36
2	24	68	10	<i>non edible</i> <i>portions</i>	0.13	4.36
3	24	68	10	<i>non edible</i> <i>portions</i>	0.08	2.76
4	24	68	10	<i>non edible</i> <i>portions</i>	0.14	4.68
5	24	68	10	<i>portions</i>	0.09	3.08

6	24	68	10	<i>non edible portions</i>	0.08	2.76
7	24	68	10	<i>non edible portions</i>	0.03	1.04
8	24	68	10	<i>non edible portions</i>	0.07	2.28
9	24	68	10	<i>non edible portions</i>	0.07	2.36
10	24	68	10	<i>portions</i>	0.08	2.72
1	24	68	20	<i>edible</i>	0.18	6.16
2	24	68	20	<i>edible</i>	0.33	10.92
3	24	68	20	<i>edible</i>	0.15	4.92
4	24	68	20	<i>edible</i>	0.17	5.6
5	24	68	20	<i>edible</i>	0.13	4.2
6	24	68	20	<i>edible</i>	0.22	7.24
7	24	68	20	<i>edible</i>	0.10	3.2
8	24	68	20	<i>edible</i>	0.15	5
9	24	68	20	<i>edible</i>	0.12	4.12
10	24	68	20	<i>edible</i>	0.31	10.32
1	24	68	20	<i>non edible portions</i>	0.17	5.6
2	24	68	20	<i>non edible portions</i>	0.08	2.56
3	24	68	20	<i>non edible portions</i>	0.12	3.96
4	24	68	20	<i>non edible portions</i>	0.07	2.32
5	24	68	20	<i>non edible portions</i>	0.08	2.6
6	24	68	20	<i>non edible portions</i>	0.13	4.4
7	24	68	20	<i>non edible portions</i>	0.18	6.08
8	24	68	20	<i>non edible portions</i>	0.10	3.2
9	24	68	20	<i>non edible portions</i>	0.06	1.92
10	24	68	20	<i>portions</i>	0.11	3.76
1	48	0	10	<i>edible</i>	0.21	6.89
2	48	0	10	<i>edible</i>	0.29	9.76
3	48	0	10	<i>edible</i>	0.23	7.58
4	48	0	10	<i>edible</i>	0.21	6.88
5	48	0	10	<i>edible</i>	0.23	7.58
6	48	0	10	<i>edible</i>	0.21	6.89
7	48	0	10	<i>edible</i>	0.24	7.96
8	48	0	10	<i>edible</i>	0.21	6.85
9	48	0	10	<i>edible</i>	0.29	9.67
10	48	0	10	<i>edible</i>	0.27	8.96
1	48	0	10	<i>non edible portions</i>	0.23	7.58

2	48	0	10	non edible portions	0.27	9.08
3	48	0	10	non edible portions	0.21	6.89
4	48	0	10	non edible portions	0.11	3.68
5	48	0	10	non edible portions	0.11	3.8
6	48	0	10	non edible portions	0.13	4.33
7	48	0	10	non edible portions	0.25	8.37
8	48	0	10	non edible portions	0.21	7
9	48	0	10	non edible portions	0.21	6.97
10	48	0	10	non edible portions	0.27	8.89
1	48	0	20	edible	0.17	5.67
2	48	0	20	edible	0.18	6.08
3	48	0	20	edible	0.19	6.39
4	48	0	20	edible	0.12	4
5	48	0	20	edible	0.15	5.08
6	48	0	20	edible	0.17	5.72
7	48	0	20	edible	0.21	7.08
8	48	0	20	edible	0.16	5.32
9	48	0	20	edible	0.21	6.96
10	48	0	20	edible	0.22	7.32
1	48	0	20	non edible portions	0.16	5.38
2	48	0	20	non edible portions	0.21	7.05
3	48	0	20	non edible portions	0.13	4.44
4	48	0	20	non edible portions	0.07	2.38
5	48	0	20	non edible portions	0.09	3
6	48	0	20	non edible portions	0.10	3.32
7	48	0	20	non edible portions	0.20	6.59
8	48	0	20	non edible portions	0.16	5.19
9	48	0	20	non edible portions	0.17	5.59
10	48	0	20	non edible portions	0.19	6.26
1	48	17	10	edible	0.29	9.64
2	48	17	10	edible	0.18	6.08
3	48	17	10	edible	0.10	3.28
4	48	17	10	edible	0.29	9.64
5	48	17	10	edible	0.18	6.08
6	48	17	10	edible	0.10	3.28

7	48	17	10	edible	0.13	4.36
8	48	17	10	edible	0.17	5.68
9	48	17	10	edible	0.14	4.76
10	48	17	10	edible	0.13	4.36
1	48	17	10	non edible portions	0.09	3.16
2	48	17	10	non edible portions	0.10	3.28
3	48	17	10	non edible portions	0.10	3.46
4	48	17	10	non edible portions	0.08	2.76
5	48	17	10	non edible portions	0.04	1.24
6	48	17	10	non edible portions	0.09	2.96
7	48	17	10	non edible portions	0.07	2.24
8	48	17	10	non edible portions	0.06	2
9	48	17	10	non edible portions	0.09	2.84
10	48	17	10	non edible portions	0.11	3.68
1	48	17	20	edible	0.21	7.08
2	48	17	20	edible	0.26	8.52
3	48	17	20	edible	0.12	4
4	48	17	20	edible	0.21	7.08
5	48	17	20	edible	0.16	5.28
6	48	17	20	edible	0.33	11.04
7	48	17	20	edible	0.11	3.76
8	48	17	20	edible	0.08	2.76
9	48	17	20	edible	0.09	3.12
10	48	17	20	edible	0.31	10.36
1	48	17	20	non edible portions	0.15	4.96
2	48	17	20	non edible portions	0.09	3.12
3	48	17	20	non edible portions	0.24	8.13
4	48	17	20	non edible portions	0.25	8.48
5	48	17	20	non edible portions	0.23	7.74
6	48	17	20	non edible portions	0.09	3.12
7	48	17	20	non edible portions	0.20	6.72
8	48	17	20	non edible portions	0.09	3.16
9	48	17	20	non edible portions	0.16	5.36
10	48	17	20	non edible portions	0.07	2.28

1	48	34	10	<i>edible</i>	0.16	5.3
2	48	34	10	<i>edible</i>	0.09	3.08
3	48	34	10	<i>edible</i>	0.07	2.28
4	48	34	10	<i>edible</i>	0.12	3.92
5	48	34	10	<i>edible</i>	0.12	3.92
6	48	34	10	<i>edible</i>	0.08	2.63
7	48	34	10	<i>edible</i>	0.09	2.92
8	48	34	10	<i>edible</i>	0.09	3
9	48	34	10	<i>edible</i>	0.10	3.28
10	48	34	10	<i>edible</i>	0.09	3.14
				<i>non edible</i>		
1	48	34	10	<i>portions</i>	0.12	4
				<i>non edible</i>		
2	48	34	10	<i>portions</i>	0.11	3.6
				<i>non edible</i>		
3	48	34	10	<i>portions</i>	0.08	2.62
				<i>non edible</i>		
4	48	34	10	<i>portions</i>	0.10	3.46
				<i>non edible</i>		
5	48	34	10	<i>portions</i>	0.05	1.52
				<i>non edible</i>		
6	48	34	10	<i>portions</i>	0.07	2.34
				<i>non edible</i>		
7	48	34	10	<i>portions</i>	0.07	2.36
				<i>non edible</i>		
8	48	34	10	<i>portions</i>	0.12	4.02
				<i>non edible</i>		
9	48	34	10	<i>portions</i>	0.08	2.68
				<i>non edible</i>		
10	48	34	10	<i>portions</i>	0.10	3.2
				<i>edible</i>		
1	48	34	20	<i>edible</i>	0.13	4.23
2	48	34	20	<i>edible</i>	0.08	2.5
3	48	34	20	<i>edible</i>	0.06	1.98
4	48	34	20	<i>edible</i>	0.06	2.05
5	48	34	20	<i>edible</i>	0.06	2.12
6	48	34	20	<i>edible</i>	0.06	2.1
7	48	34	20	<i>edible</i>	0.09	3.04
8	48	34	20	<i>edible</i>	0.09	2.84
9	48	34	20	<i>edible</i>	0.14	4.6
10	48	34	20	<i>edible</i>	0.08	2.67
				<i>non edible</i>		
1	48	34	20	<i>portions</i>	0.09	3
				<i>non edible</i>		
2	48	34	20	<i>portions</i>	0.09	3.01
				<i>non edible</i>		
3	48	34	20	<i>portions</i>	0.05	1.52
				<i>non edible</i>		
4	48	34	20	<i>portions</i>	0.07	2.19
				<i>non edible</i>		
5	48	34	20	<i>portions</i>	0.03	1.08
				<i>non edible</i>		
6	48	34	20	<i>portions</i>	0.04	1.27

7	48	34	20	non edible portions	0.06	1.84
8	48	34	20	non edible portions	0.09	3.09
9	48	34	20	non edible portions	0.04	1.21
10	48	34	20	non edible portions	0.05	1.78
1	48	68	10	edible	0.19	6.25
2	48	68	10	edible	0.25	8.28
3	48	68	10	edible	0.14	4.6
4	48	68	10	edible	0.13	4.28
5	48	68	10	edible	0.11	3.68
6	48	68	10	edible	0.20	6.6
7	48	68	10	edible	0.13	4.32
8	48	68	10	edible	0.14	4.76
9	48	68	10	edible	0.12	4.12
10	48	68	10	edible	0.09	2.92
1	48	68	10	non edible portions	0.11	3.52
2	48	68	10	non edible portions	0.32	10.64
3	48	68	10	non edible portions	0.24	8.13
4	48	68	10	non edible portions	0.16	5.48
5	48	68	10	non edible portions	0.08	2.64
6	48	68	10	non edible portions	0.10	3.44
7	48	68	10	non edible portions	0.21	6.89
8	48	68	10	non edible portions	0.08	2.8
9	48	68	10	non edible portions	0.15	4.84
10	48	68	10	non edible portions	0.09	3.04
1	48	68	20	edible	0.19	6.25
2	48	68	20	edible	0.25	8.28
3	48	68	20	edible	0.09	3.16
4	48	68	20	edible	0.16	5.36
5	48	68	20	edible	0.10	3.44
6	48	68	20	edible	0.25	8.28
7	48	68	20	edible	0.11	3.6
8	48	68	20	edible	0.15	5.16
9	48	68	20	edible	0.10	3.2
10	48	68	20	edible	0.28	9.36
1	48	68	20	non edible portions	0.09	3.16
2	48	68	20	non edible portions	0.07	2.28

3	48	68	20	<i>non edible portions</i>	0.04	1.28
4	48	68	20	<i>non edible portions</i>	0.13	4.2
5	48	68	20	<i>non edible portions</i>	0.07	2.36
6	48	68	20	<i>non edible portions</i>	0.12	4.12
7	48	68	20	<i>non edible portions</i>	0.08	2.6
8	48	68	20	<i>non edible portions</i>	0.05	1.76
9	48	68	20	<i>non edible portions</i>	0.06	2.16
10	48	68	20	<i>non edible portions</i>	0.09	3.04



LAMPIRAN 2. Hasil Pengujian Non Parametrik

*Pengujian Antar Waktu Depurasi***NPar Tests****Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
w_dprasi	320	1.50	.501	1	2

Mann-Whitney Test**Ranks**

w_dprasi	N	Mean Rank	Sum of Ranks
cd 24 jam	160	169.86	27177.50
48 jam	160	151.14	24182.50
Total	320		

Test Statistics^a

	cd
Mann-Whitney U	11302.500
Wilcoxon W	24182.500
Z	-1.810
Asymp. Sig. (2-tailed)	.070

a. Grouping Variable: w_dprasi

Hasil Pengujian Antar Keempat Konsentrasi EDTA**NPar Tests****Descriptive Statistics**

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Kruskal-Wallis Test**Ranks**

kon_edta	N	Mean Rank
cd 0 ppm	80	241.03
17 ppm	80	148.66
34 ppm	80	102.62
68 ppm	80	149.70
Total	320	

Test Statistics^{a,b}

	cd
Chi-Square	94.319
df	3
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: kon_edta

Perbandingan Antar Konsentrasi EDTA 0 – 17 ppm

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Mann-Whitney Test

Ranks

kon_edta	N	Mean Rank	Sum of Ranks
cd 0 ppm	80	103.47	8277.50
cd 17 ppm	80	57.53	4602.50
Total	160		

Test Statistics^a

	cd
Mann-Whitney U	1362.500
Wilcoxon W	4602.500
Z	-6.271
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: kon_edta

Perbandingan Antar Konsentrasi EDTA 0 – 34 ppm

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Mann-Whitney Test

Ranks

	kon edta	N	Mean Rank	Sum of Ranks
cd	0 ppm	80	113.31	9064.50
	34 ppm	80	47.69	3815.50
	Total	160		

Test Statistics^a

	cd
Mann-Whitney U	575.500
Wilcoxon W	3815.500
Z	-8.957
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: kon_edta

Perbandingan Antar Konsentrasi EDTA 0 – 68 ppm

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Mann-Whitney Test

Ranks

	kon edta	N	Mean Rank	Sum of Ranks
cd	0 ppm	80	105.25	8420.00
	68 ppm	80	55.75	4460.00
	Total	160		

Test Statistics^a

	cd
Mann-Whitney U	1220.000
Wilcoxon W	4460.000
Z	-6.757
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: kon_edta

Perbandingan Antar Konsentrasi EDTA 17 – 34 ppm

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Mann-Whitney Test

Ranks

kon_edta	N	Mean Rank	Sum of Ranks
cd 17 ppm	80	92.37	7389.50
34 ppm	80	68.63	5490.50
Total	160		

Test Statistics^a

	cd
Mann-Whitney U	2250.500
Wilcoxon W	5490.500
Z	-3.241
Asymp. Sig. (2-tailed)	.001

a. Grouping Variable: kon_edta

Perbandingan Antar Konsentrasi EDTA 17 – 68 ppm

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Mann-Whitney Test

Ranks

kon_edta	N	Mean Rank	Sum of Ranks
cd 17 ppm	80	79.76	6380.50
68 ppm	80	81.24	6499.50
Total	160		

Test Statistics^a

	cd
Mann-Whitney U	3140.500
Wilcoxon W	6380.500
Z	-.203
Asymp. Sig. (2-tailed)	.839

a. Grouping Variable: kon_edta

Perbandingan Antar Konsentrasi EDTA 34 - 68 ppm

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
kon_edta	320	2.50	1.120	1	4

Mann-Whitney Test

Ranks

kon edta	N	Mean Rank	Sum of Ranks
cd 34 ppm	80	67.29	5383.50
68 ppm	80	93.71	7496.50
Total	160		

Test Statistics^a

	cd
Mann-Whitney U	2143.500
Wilcoxon W	5383.500
Z	-3.606
Asymp. Sig. (2-tailed)	.000

a. Grouping Variable: kon_edta

Hasil Pengujian Antar Waktu Perebusan

NPar Tests

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
cd	320	4.9717	2.47711	1.04	11.04
w_prbsan	320	1.50	.501	1	2