

LAMPIRAN



**Lampiran 1** Distribusi Ukuran Partikel



## SZ-100

Ultrasonik 2' 0,2% M - 1 R1.nsz

### Measurement Results

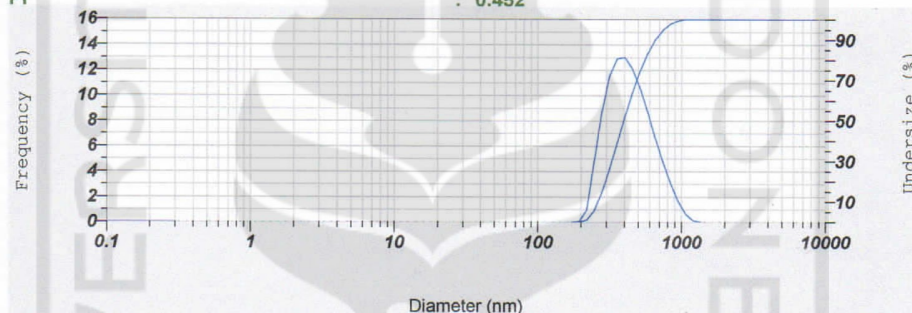
Date : Monday, February 04, 2019 1:18:01 PM  
 Measurement Type : Particle Size  
 Sample Name : Ultrasonik 0,2% 2 menit M1  
 Scattering Angle : 90  
 Temperature of the Holder : 25.0 °C  
 Dispersion Medium Viscosity : 0.895 mPa·s  
 Transmission Intensity before Meas. : 33593  
 Distribution Form : Standard  
 Distribution Form(Dispersity) : Monodisperse  
 Representation of Result : Scattering Light Intensity  
 Count Rate : 198 kCPS

### Calculation Results

Peak No.	S.P.Area Ratio	Mean	S. D.	Mode
1	1.00	432.8 nm	159.5 nm	377.2 nm
2	---	--- nm	--- nm	--- nm
3	---	--- nm	--- nm	--- nm
Total	1.00	432.8 nm	159.5 nm	377.2 nm

### Cumulant Operations

Z-Average : 368.3 nm  
 PI : 0.452



No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation
1	0.34	0.000	0.000	22	4.40	0.000	0.000	43	57.09	0.000	0.000	64	740.89	4.752	94.588
2	0.38	0.000	0.000	23	4.97	0.000	0.000	44	64.50	0.000	0.000	65	837.07	3.047	97.635
3	0.43	0.000	0.000	24	5.61	0.000	0.000	45	73.87	0.000	0.000	66	945.74	1.846	99.481
4	0.49	0.000	0.000	25	6.34	0.000	0.000	46	82.33	0.000	0.000	67	1068.52	0.630	99.911
5	0.55	0.000	0.000	26	7.17	0.000	0.000	47	93.02	0.000	0.000	68	1207.24	0.088	100.000
6	0.62	0.000	0.000	27	8.10	0.000	0.000	48	105.10	0.000	0.000	69	1363.97	0.000	100.000
7	0.70	0.000	0.000	28	9.15	0.000	0.000	49	118.74	0.000	0.000	70	1541.04	0.000	100.000
8	0.80	0.000	0.000	29	10.34	0.000	0.000	50	134.16	0.000	0.000	71	1741.10	0.000	100.000
9	0.90	0.000	0.000	30	11.68	0.000	0.000	51	151.57	0.000	0.000	72	1967.14	0.000	100.000
10	1.02	0.000	0.000	31	13.20	0.000	0.000	52	171.25	0.000	0.000	73	2222.51	0.000	100.000
11	1.15	0.000	0.000	32	14.91	0.000	0.000	53	193.48	0.026	0.026	74	2511.05	0.000	100.000
12	1.30	0.000	0.000	33	16.84	0.000	0.000	54	218.80	0.562	0.562	75	2837.04	0.000	100.000
13	1.47	0.000	0.000	34	19.03	0.000	0.000	55	246.88	4.753	5.732	76	3205.35	0.000	100.000
14	1.69	0.000	0.000	35	21.50	0.000	0.000	56	279.04	8.709	14.441	77	3621.48	0.000	100.000
15	1.87	0.000	0.000	36	24.29	0.000	0.000	57	315.27	11.522	25.962	78	4081.83	0.000	100.000
16	2.11	0.000	0.000	37	27.45	0.000	0.000	58	356.00	12.898	38.861	79	4622.81	0.000	100.000
17	2.39	0.000	0.000	38	31.01	0.000	0.000	59	402.44	12.988	51.849	80	5222.96	0.000	100.000
18	2.70	0.000	0.000	39	35.03	0.000	0.000	60	454.88	12.097	63.946	81	5901.02	0.000	100.000
19	3.05	0.000	0.000	40	39.58	0.000	0.000	61	513.71	10.559	74.502	82	6667.10	0.000	100.000
20	3.45	0.000	0.000	41	44.72	0.000	0.000	62	580.41	8.685	83.187	83	7532.85	0.000	100.000
21	3.88	0.000	0.000	42	50.53	0.000	0.000	63	655.76	6.688	89.836	84	8510.58	0.000	100.000

## SZ-100

Ultrasonik 4' 0,2% M - 1 R1.nsz

### Measurement Results

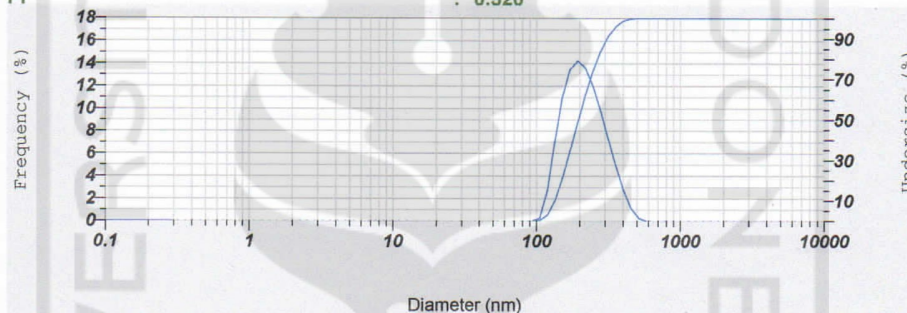
Date : Monday, February 04, 2019 2:37:38 PM  
 Measurement Type : Particle Size  
 Sample Name : Ultrasonik 0,2% 4 menit M1  
 Scattering Angle : 90  
 Temperature of the Holder : 24.9 °C  
 Dispersion Medium Viscosity : 0.897 mPa·s  
 Transmission Intensity before Meas. : 33951  
 Distribution Form : Standard  
 Distribution Form(Dispersity) : Monodisperse  
 Representation of Result : Scattering Light Intensity  
 Count Rate : 143 KCPS

### Calculation Results

Peak No.	S.P.Area Ratio	Mean	S. D.	Mode
1	1.00	210.5 nm	69.3 nm	182.1 nm
2	--	-- nm	-- nm	-- nm
3	--	-- nm	-- nm	-- nm
Total	1.00	210.5 nm	69.3 nm	182.1 nm

### Cumulant Operations

Z-Average : 311.1 nm  
 PI : 0.520



No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation
1	0.34	0.000	0.000	22	4.40	0.000	0.000	43	57.09	0.000	0.000	64	740.89	0.000	100.000
2	0.38	0.000	0.000	23	4.97	0.000	0.000	44	64.50	0.000	0.000	65	837.07	0.000	100.000
3	0.43	0.000	0.000	24	5.61	0.000	0.000	45	72.67	0.000	0.000	66	945.74	0.000	100.000
4	0.49	0.000	0.000	25	6.34	0.000	0.000	46	82.33	0.000	0.000	67	1068.52	0.000	100.000
5	0.55	0.000	0.000	26	7.17	0.000	0.000	47	93.02	0.000	0.000	68	1207.24	0.000	100.000
6	0.62	0.000	0.000	27	8.10	0.000	0.000	48	105.10	0.228	0.228	69	1363.97	0.000	100.000
7	0.70	0.000	0.000	28	9.15	0.000	0.000	49	118.74	2.603	2.831	70	1541.04	0.000	100.000
8	0.80	0.000	0.000	29	10.34	0.000	0.000	50	134.16	7.045	9.876	71	1741.10	0.000	100.000
9	0.90	0.000	0.000	30	11.68	0.000	0.000	51	151.57	11.006	20.882	72	1987.14	0.000	100.000
10	1.02	0.000	0.000	31	13.20	0.000	0.000	52	171.25	13.436	34.318	73	2222.51	0.000	100.000
11	1.15	0.000	0.000	32	14.91	0.000	0.000	53	193.48	14.209	48.526	74	2511.05	0.000	100.000
12	1.30	0.000	0.000	33	16.84	0.000	0.000	54	218.60	13.586	62.114	75	2837.04	0.000	100.000
13	1.47	0.000	0.000	34	19.03	0.000	0.000	55	246.88	11.968	74.082	76	3205.35	0.000	100.000
14	1.66	0.000	0.000	35	21.50	0.000	0.000	56	279.04	9.749	83.830	77	3621.48	0.000	100.000
15	1.87	0.000	0.000	36	24.29	0.000	0.000	57	315.27	7.282	91.113	78	4091.83	0.000	100.000
16	2.11	0.000	0.000	37	27.45	0.000	0.000	58	356.20	4.869	95.972	79	4622.81	0.000	100.000
17	2.39	0.000	0.000	38	31.01	0.000	0.000	59	402.44	2.720	98.691	80	5222.98	0.000	100.000
18	2.70	0.000	0.000	39	35.03	0.000	0.000	60	454.89	1.091	99.783	81	5901.02	0.000	100.000
19	3.05	0.000	0.000	40	39.58	0.000	0.000	61	513.71	0.217	100.000	82	6667.10	0.000	100.000
20	3.45	0.000	0.000	41	44.72	0.000	0.000	62	580.41	0.000	100.000	83	7532.85	0.000	100.000
21	3.89	0.000	0.000	42	50.53	0.000	0.000	63	655.76	0.000	100.000	84	8510.56	0.000	100.000

## SZ-100

Ultrasonik 6' 0,2% M - 1 R1.nsz

### Measurement Results

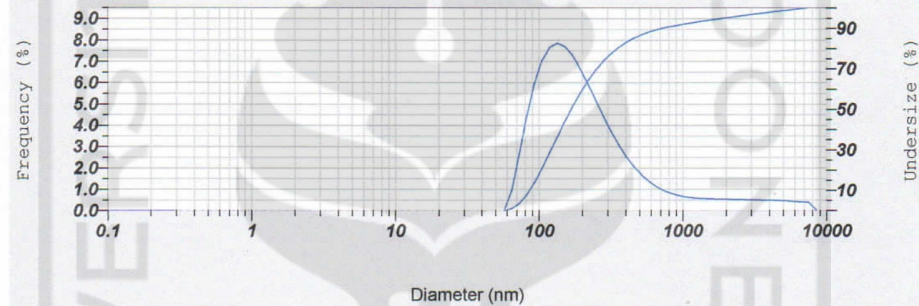
Date : Monday, February 04, 2019 3:25:16 PM  
 Measurement Type : Particle Size  
 Sample Name : Ultrasonik 0,2% 6 menit M1  
 Scattering Angle : 90  
 Temperature of the Holder : 24.9 °C  
 Dispersion Medium Viscosity : 0.897 mPa·s  
 Transmission Intensity before Meas. : 30579  
 Distribution Form : Standard  
 Distribution Form(Dispersity) : Monodisperse  
 Representation of Result : Scattering Light Intensity  
 Count Rate : 292 KCPS

### Calculation Results

Peak No.	S.P.Area Ratio	Mean	S. D.	Mode
1	1.00	437.4 nm	930.3 nm	126.2 nm
2	---	--- nm	--- nm	--- nm
3	---	--- nm	--- nm	--- nm
Total	1.00	437.4 nm	930.3 nm	126.2 nm

### Cumulant Operations

Z-Average : 242.7 nm  
 PI : 0.479



No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation	No.	Diameter	Frequency	Cumulation
1	0.34	0.000	0.000	22	4.40	0.000	0.000	43	57.09	0.000	0.000	64	740.89	0.928	90.070
2	0.38	0.000	0.000	23	4.97	0.000	0.000	44	64.50	0.927	0.927	65	837.07	0.791	90.860
3	0.43	0.000	0.000	24	5.61	0.000	0.000	45	73.87	2.835	3.562	66	945.74	0.894	91.554
4	0.49	0.000	0.000	25	6.34	0.000	0.000	46	82.33	4.450	8.011	67	1068.52	0.627	92.181
5	0.55	0.000	0.000	26	7.17	0.000	0.000	47	93.02	5.971	13.982	68	1207.24	0.583	92.764
6	0.62	0.000	0.000	27	8.10	0.000	0.000	48	105.10	7.047	21.029	69	1363.97	0.555	93.320
7	0.70	0.000	0.000	28	9.15	0.000	0.000	49	118.74	7.856	28.885	70	1541.04	0.536	93.856
8	0.80	0.000	0.000	29	10.34	0.000	0.000	50	134.16	7.843	36.528	71	1741.10	0.528	94.386
9	0.90	0.000	0.000	30	11.68	0.000	0.000	51	161.67	7.680	44.208	72	1967.14	0.522	94.908
10	1.02	0.000	0.000	31	13.20	0.000	0.000	52	171.25	7.253	51.462	73	2222.51	0.517	95.425
11	1.15	0.000	0.000	32	14.91	0.000	0.000	53	193.49	6.645	58.106	74	2511.05	0.511	95.936
12	1.30	0.000	0.000	33	16.84	0.000	0.000	54	218.60	5.930	64.036	75	2837.04	0.505	96.441
13	1.47	0.000	0.000	34	19.03	0.000	0.000	55	246.98	5.173	69.210	76	3205.35	0.498	96.938
14	1.66	0.000	0.000	35	21.50	0.000	0.000	56	279.04	4.425	73.634	77	3621.48	0.486	97.423
15	1.87	0.000	0.000	36	24.29	0.000	0.000	57	315.27	3.720	77.354	78	4091.53	0.473	97.896
16	2.11	0.000	0.000	37	27.45	0.000	0.000	58	356.20	3.082	80.436	79	4622.81	0.458	98.354
17	2.39	0.000	0.000	38	31.01	0.000	0.000	59	402.44	2.525	82.961	80	5222.96	0.441	98.794
18	2.70	0.000	0.000	39	35.03	0.000	0.000	60	454.66	2.054	85.015	81	5901.02	0.422	99.217
19	3.05	0.000	0.000	40	39.58	0.000	0.000	61	513.71	1.665	86.680	82	6667.10	0.402	99.619
20	3.45	0.000	0.000	41	44.72	0.000	0.000	62	580.41	1.353	88.033	83	7532.65	0.381	100.000
21	3.89	0.000	0.000	42	50.53	0.000	0.000	63	655.76	1.110	89.144	84	8510.56	0.000	100.000